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BIBLIOTECA NAZIONALE "VITTORIO EMANUELE III" NAPOLI

ROSS
—and—
CROMARTY
SHIRES.

347676

A

GENERAL VIEW

OF THE

AGRICULTURE

OF THE

COUNTIES

OF

ROSS AND CROMARTY;

WITH OBSERVATIONS ON THE MEANS OF THEIR IMPROVEMENT:

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT.

BY

SIR GEORGE STEUART MACKENZIE, BART.

Nihil est Agricultura melius, nihil uberius, nihil dulcius, nihil homine libero dignius.

CIC. DE OFF.

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VITTORIO EMANUELE III° - BIBLIOTECA NAZIONALE - NAPOLI

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TO

DONALD M'LEOD, ESQ.

OF GEANIES,

SHERIFF-DEPUTE, AND VICE-LIEUTENANT

OF ROSS-SHIRE,

Whose life has been devoted to the service of the County, and whose exertions for its Improvement have been unremitted, this Survey is Dedicated, with every sentiment of esteem and affection, by

THE AUTHOR.

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ADVERTISEMENT.

THE great desire that has been very generally expressed, for having the AGRICULTURAL SURVEYS of the KINGDOM reprinted, with the additional communications which have been received since the ORIGINAL REPORTS were circulated, has induced the BOARD of AGRICULTURE to come to a resolution of reprinting such as may appear on the whole fit for publication. It is proper at the same time to add, that the Board does not consider itself responsible for any fact or observation contained in the Reports thus reprinted, as it is impossible to consider them yet in a perfect state; and that it will thankfully acknowledge any additional information which may still be communicated: an invitation, of which, it is hoped, many will avail themselves, as there is no circumstance from which any individual can derive more real satisfaction, than that of contributing, by every exertion in his power, to promote the improvement of his Country.

N. B. *Letters to the Board may be addressed to* SIR JOHN SINCLAIR, Bart. M. P.

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THE Reader is requested to correct the following Errata, and to excuse any others he may meet with. The distance at which I was from the Press, while the greatest part of the Work was printed, must serve as an apology for their being so numerous.

ERRATA.

Introduction, p. 10. l. 26. *after* one third, *insert* is
p. 18, l. 20, *for* Tannich, *read* Fannich
43, l. 6, *for* stringent, *read* astringent
48, l. 9, *for* Tannich, *read* Fannich, *for* fifteen, *read* twelve
63, l. 4, from the bottom, *for* Mildery, *read* Mildearg
71, l. 22, *for* continued, *read* contrived
109, l. 25, *for* thus for, *read* thus far
142, l. 8, *for* most, *read* least
214, l. 3, *before* so, *insert* is
224, l. 11, *for* are, *read* is
225, l. 14, *for* this, *read* these, *for* insect, *read* insects
227, note, *for* western, *read* eastern
230, l. 6, *before* fuel, *insert* the use of

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INTRODUCTION.

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INTRODUCTION.

Historical Statement of the Erection and Boundaries of the shirès of Ross and Cromarty, by Mr Nimmo, Rector of the Academy of Inverness; from the Third Report of the Commissioners for Roads and Bridges in the Highlands of Scotland.

SHIRE OF ROSS.

When the Norwegians were in possession of the Orcades, and the neighbouring province of Caithness and Sutherland, Ross seems to have shared the usual fate of frontier provinces, and to have belonged at different periods to both parties. The Icelandic accounts bear, that it made part of the dominions of the Earls of Orkney, while the Descriptio Albaniæ regards Ross and Moray as part of Scotland; nay even the Ebudian princes seem to have been in possession of a great part of present Ross-shire: the truth probably was, that, favoured by their peninsular situation, the inhabitants of Ross paid little respect to the authority of any of their powerful neighbours.

Ross, however, was a Comitatus or Earldom at a very ancient period. Of the history of its first Earls scarcely any historical document exists; contrary to

 most

most other feodal possessions, it seems to have descended to heirs-female.

Hugh, one of the Earls, was killed at the battle of Halidon Hill, 1333. William his son succeeded, and seems to have had some claim to the Western Isles. In a variety of charters, he is styled William, Earl of Ross, Lord of Skye. This Earl slew Raynold of the Isles in a fray at Perth; but in establishing his own right to these possessions in the usual mode of those times, viz. by force, he does not appear to have been altogether successful.

William left a daughter, married to Walter Leslie, who succeeded in her right to the earldom; he had issue, 1st, Alexander, who succeeded to the earldom, and 2d, a daughter, married to Donald, Lord of the Isles. Alexander married a daughter of the Regent, Robert Duke of Albany, and had a daughter, Euphemia, who, while a child, was induced to resign her title to the son of Robert; she soon after died suddenly, not, it is thought, without the connivance of the Regent, whose son John was now Earl of Ross and Buchan, 1406.

Donald now asserted his claim, and was willingly received by the inhabitants of Ross; but being induced to extend his power much farther, was at length defeated at Harlow, 1411.

Donald and his successors, however, kept possession of the earldom, and indeed his dominions seem to have extended from the borders of Sutherland as far as the Grampians. I have seen a charter from "Johannes de Isla, Comes Rossiæ et Dominus Insularum," granting to "Somerled, filius Somerledi, the davate of Glenywas, (Glennevis) and the office of Toseach deora

deora (a sort of high constable) of all the lands of Lochabir, dated at Dyngvale, 20th April, 1456." Such charters are common in Inverness and Ross-shires. The tower of Kilravock near Nairn, with many others, was built by licence from this John, in 1460. He used the style of an independent prince, made treaties with Edward of England, &c.; and indeed the extent of his possessions might well justify such a conduct. When we cast our eyes on the map, from Dingwall to Isla, and include all the isles, we see that nearly one fourth of the kingdom was under the controul of this chieftain.

From these circumstances it has become somewhat difficult to determine what was the boundary of the Earldom of Ross; that of the Diocese is matter more distinct.

The Diocese of Ross was erected about the middle of the 12th century; it extended from the Oikel to the Varar or Beaulie; the former divided it from Caithness; the latter from Moray to the westward. Its southern boundary continued by the Glass River, to the mountains bordering on Kintail, whence turning to the south, so as to include the country of Kintail, and all the waters falling to the Loch Duich, the outline came to the Atlantic at the sound of Skye.

The inconvenient extent of the sheriffdom of Inverness seems to have been much felt about the beginning of the 16th century, when a proposal was made to create "ane Schiref of Rosse, and anuther Schiref of Caithness." This plan, however, not being carried into effect, we hear no more of the sheriffdom of Ross till after the restoration.

The first parliament of Charles II. anno 1661, granted

granted his Majesty an annuity of L. 40,000, partly raised by an excise on malt, apportioned to the several counties and burghs in the way of assessment. Ross-shire is mentioned in this act; but to judge from the names of the Commissioners of Supply, the southern parts of the present county, with the burghs of Dingwall and Fortrose, made part of Inverness-shire.

Among the acts "not imprinted" of this session, we have "An act to establish the sheriffdom of Ross and the bounds of it," of which I have procured the following extract, ... "declare and enact, that in all time coming the shire of Ross shall be measured from the Stackfoords of Ross inclusive, including the Lordship of Ardmano, and all the lands and bounds within the old diocese of Ross, on the north side of the ferry Kessore, (except the lands belonging to Lord Lovat and his vassals, the sheriffdom of Cromartie, and so much of the lands of Fairintosh as pertained formerly to the Sheriffdom of Nairn); also the shire of Ross comprehends the Isle of Lewis, pertaining to the Earl of Seaforth; and ordain, that all legal administration of justice, &c. be ordered, &c. according to the division above mentioned, and the sheriff-courts at the burgh of Dingwall, Tain, or Fortrose, as the sheriff shall think fit."

In the acts for an assessment of L. 72,000 monthly, in 1667, the sheriffdoms of Inverness and Ross are charged with the sum of L. 2,590, 19s. to be divided between them, according to the division in 1660, (probably 1661). From the names of the Commissioners, we see the above act is that alluded to; the proprietors in the Black Isle, with Dingwall and Fortrose, being now attached to Ross.

We

We may proceed to arrange the description of the boundary of Ross on these data; but first it will be necessary to make a few remarks on the act.

The "Stackfoords" of Ross are now unknown. I was inclined to think them the fords of Oikel; but I now think they are upon the river Beaulie. The Stockfurdum Rossiæ is mentioned by Leslie, (Bishop of Ross), in his history of Scotland, who calls it celebre radum in Fornia fluvio; the Fornia is commonly understood to be the Beaulie; the Stockfurdum is also mentioned by others as the passage into Ross from the south *.

The Lordship of Ardmano or Ardmeanach is that peninsula called the Black Isle, between the friths of Cromarty and Moray; and which, with the exception of Ferrintosh and Cromartyshire, is all in the county of Ross. We might accordingly make the river Beaulie the south bounds of Ross, were we not obliged to exclude the lands belonging to Lord Lovat and his vassals.

The Lord Lovat, at this time, possessed in the parish of Kilmorack, north of the Beaulie, 1st, The barony of Beaulie, commonly named Leoma Manach, (or the Monk's portion); 2d, the barony of Glen Strathfarar; while 3d, Breakachy, Aigas, and Ercless, were held of him in vassalage.

Boundary

* A reference to the Icelandic language, which bears considerable affinity to the Scotch and Gaelic, may explain what is meant by the "Stackfoords of Ross." In the Icelandic, "Skaga Fiordur," means "the arm of the sea bounding a point of land." Here, suppose "Stackfoord" to be a corruption of "Skaga Fiordur," the Stackfoords of Ross may mean the points of land included between the Murray and Dornoch Friths, and bounded by these, from Beauly to Tarbet-Ness. G. M.

Boundary of Ross.—Beginning at the river Beaulie, the farm of Lettach, in the lordship of Beaulie, is divided from the estate of Tarradale in Ross by a march-dike, which, commencing at the sea-shore, about half a mile east of the mouth of the burn called Altavreck, and nearly two miles below Beaulie, proceeds directly up the country, nearly parallel to the burn aforesaid, and parallel also to a part of the road from Beaulie to Dingwall, passing between this road and the old kirk of Gillechrist. The boundary of the lordship proceeds N. N. W. and falls at length on the county-road at a small lake or pool, named Loch-Alt nan Araghk (where a road branches off towards the kirk of Urray, Fairburn, &c.), the precise point being the stump of a tree in this pool. From this pool turn to the south, between upper and lower Ardnagrask, to a small stripe, falling to Alt na Breck, and down this burn to the bridge, where the county road crosses it, from whence the county road is the boundary, till it turns down to Beaulie; thus leaving Ardnagrask and Riendown in Ross-shire, lower Ardnagrask, Letloch, Wellhouse, Croyard, &c. in Inverness.

From the road at Croyard, we proceed by a small burn named ———— to its source, whence N. W. to the junction of the waters of Loch-Banni and Loch-Nan'ian, in the burn of Ord.

N. B. There are about a thousand acres now in dispute, between Ord, Reindown, and Ardnagrask, which may alter the outline of the county in this quarter. *

The

* As these estates are all in Ross-shire, the settlement of the dispute may not affect the boundary. G. M.

The boundary now proceeds by the burn to Loch-Nan'ian, through this lake, and from its head westward to the source of a burn named Alt Crochar, by this to Alt Gourie, the boundary between Chisholm of Chisholm (Inverness), now Gillanders of Highfield, and Mackenzie of Fairburn (Ross); (at this junction there is a patch of land, which alternately belongs to Chisholm in Inverness, and Gillanders of Highfield in Ross), up the burn of Alt Gourie to its source, whence westward to the mountain Carn'a Cavelach, about a mile and a half north of the mill of Culegran, where we meet the barony of Glenstrathfarrar.

The boundary with this barony runs N. W. by the summits of the mountains Scur a Fowlan, Carn a Cossich, and falls upon the Orrin, a little above the mouth of the burn of Alt a Cossich. Proceed up the Orrin one mile, to the mouth of Alt a Coray Charabie, (or perhaps only to a point ¼ mile below this, the precise limit being questioned) from whence (leaving the district of Corry Charabie, on the Orrin, to Inverness) we return to the summits of Scur a Corry Charabie, which trend S. Scur na'Rui, S. W.—Scur a Corry Glas, N. W.—Scur a Muich, S. W.—Bein Muich, W. to Meal n'Tarrach, where we descend S. upon the Varrar, ½ mile above the mouth of the Mishkeik at Inch Lochel.

Proceed up the river to Loch Monar, by the middle of this lake, till, opposite a small rivulet on the south called Alt na' Crilie, half a mile below the burn of Riachan; by this burn, south to the summit of a hill named Meal n'Buie; descending from this, and (cross a track which runs along the water of Mishkeith, and into Kintail) proceed to the summit of a rock named Craigmore,

Craigmore Tuil n'Lochan, on the west side of the mountain Scur n'Lappich, where we meet the property of Chisholm of Chisholm, Esq.

The boundary now runs east by this ridge to a burn near the middle of Loch Glassletter, across this lake, and to the opposite summit of Mavie Loch thereon, westward; thus, leaving Chisholm's property of Glasletir, in Ross, and the farms of Glen Cannich, Brea Channich, &c. in Inverness.

From hence, the boundary makes a complete turn round the head of Glen Grivie, leaving all the water falling to this valley in Inverness. It crosses the valley at a place called Cana ———, about half a mile below the head of Loch Bealoch, and running along the summits on the south, it comes to a mountain named Scur'a Chonlen, near the sources of the Doe and the Alt'a Churn More, which fall to Moriston. From this point descend S. by the ridge near the sources of the Doe, to a hill called Cruachan Lundie, where we fall upon Loch Cluony, about one third down the lake, and a mile W. of the little pool called Lochan Lundie; proceed directly across the lake, and forward to the head of the lower division of Loch-Loyn; up by the lake and water of Loyn to its source; from thence, by the summit level between Glen Quoich and Glen Sheal; and, in fine, proceed by the summits on the south of Glen Sheal, Loch-Duich, and Ardentoul, till we fall on the inner sound of Skye, at a small burn a mile and a quarter to the north of Kyle Rea Ferry.

Pass now to the northward by the sailing channel through the strait called Kyleaken or Kyle Haquin, leaving two small rocky isles called Glass Elan, off the old castle Moile, to Skye, and two others off the S. W.

point

point of Loch-Alsh, called Elan Gillean, to Ross-shire, as also the isles of Croulin, off the extremity of Applecross. So much for the boundary with Inverness.

The original seat of the family of Mackenzie, afterwards Lords Seaforth and Earls of Kintail, was at the Castle of Elan Donan, at the mouth of Loch Duich and Loch Long. They were established there, it is said, by Alexander II. after the battle of Largs, to be a check upon the islanders. Their power seems to have extended in the more accessible of the neighbouring glens, even beyond the summit level of the valley: they acquired afterwards considerable property to the northward.

After the first erection of Ross-shire, the property of the Mackenzies seems still to have been included in Inverness; and even after the year 1661, in an act for raising several regiments of foot and horse, a certain number are appointed to be furnished by "Lovat and Seaforth's part of Inverness." By the act in 1661, however, Seaforth seems to have procured an annexation of all his lands to Ross-shire, and Kintail, of course, followed the rest of the property: hence the singularity of the western boundary of these counties.

Of the District of Ferrintosh.

THIS district was originally comprehended in the extensive county of Inverness. It still pays cess or land-tax in that county.

In the 15th century, it was the property of the Thane of Caldor, who procured an annexation of that, with

with other lands, to the county of Nairn. Accordingly, when the shire of Ross was erected, we have seen that this district was excepted from it.

At the abolition of hereditary jurisdictions, the district came under the jurisdiction of the sheriff of Ross; but, in every other respect, is considered as a part of Nairnshire. A justice of peace, to act there, must be qualified for Nairnshire; and the people are summoned to head-courts, &c. to the town of Nairn. This inconvenience is peculiarly felt in the execution of the excise laws. The estate (which now belongs to Forbes of Culloden) was, at one time, famous for enjoying the privilege of distilling the barley of its own growth into spirits, free of any duty; and, although the right was purchased by Government about twenty years ago, yet, as the skill in the art still remains among the people, it is no uncommon thing to see almost one half of them summoned at once to attend the justice of peace courts at Nairn.

Again, by an unlucky accident, the parish church is situated within the Ferrintosh estate, by which means, in the acts respecting the militia, &c. the whole united parishes of Logie and Urquhart, which comprehend a considerable tract to the N. and S. of Ferrintosh, are reckoned in the county of Nairn, and thus an additional population of one-third given to that small county.

This estate is situated on the south shore of the Conan river and the frith of Cromarty, a little below the bridge. The extent is about eight square miles.

The boundary to the west is a burn falling to Conan, near a farm called Tuina'awin, and which passes immediately east of the old castle of Kinkell. The boundary

boundary runs by this burn across the high road from Kessock to Conan Bridge, and to its source on the summit of the hill, near a very remarkable druidical circle; by the summit, N. E. nearly five miles, keeping parallel to, and about two miles distant from Conan, descends N. to the road from Fortrose to Dingwall, turns west by this road one-half mile, and finally descends to the shore, a little east of the kirk of Urquhart.

The extent along shore may be 2½ miles. G.

To the N. E. of Ferrintosh, we have the estates of Findon and Kinbeachy in Ross, excepting in milltia business, as above mentioned, when the former is reckoned in Nairn, the latter in Cromarty.

To these succeed Tobirchurn and Craighouse, which, with many other districts, have been annexed to Cromarty; but in cases of roads, bridges, &c. are, with Ferrintosh, still considered as part of Ross.

Beyond this, we find the old sheriffdom of Cromarty, alluded to in the act erecting the shire of Ross, and which, in many respects, is still considered a distinct shire.

Of the Old Shire of Cromarty.

THIS small district appears to have been erected into a shire at a very early period of our history. The office of sheriff was hereditary in the family of Urquhart of Cromarty, in whose hands it was left at the conquest of Scotland by Edward.

The

The old shire comprehended, 1st, The whole parish of Cromarty: 2d, The parish of Kirkmichael, with the exception of the farms of Easter Balblair, and perhaps Kirkmichael, (which form a tract of nearly one mile in length, and half a mile in breadth, situated on the point of land at Invergordon Ferry, and which is considered as a part of Ross-shire): and, 3d, The farm of Easter St Martin's, in the parish of Cullicuden.

Thus, the old shire was a tract, whose greatest length was 10 miles, G. and average breadth 1¾. The area, therefore, is only 17½ square miles, being by far the smallest county in Scotland.

On the south of this district, and in the middle of the peninsula, there is an extensive common moor, named the Mulbuie, in which the county of Cromarty has an undoubted share; but, until a division be made, it is impossible to ascertain any boundary in it.

The same common extends westward beyond Ferrintosh; but the proprietors in that quarter having agreed upon a division, I have included, in describing the bounds of Ferrintosh, the share of the Mulbuie attached to it.

Boundary of the Old Shire of Cromarty.—Beginning on the shore of the Moray Firth, at the Burn of Eathie or Craighouse, about three miles south of Cromarty, follow this burn to its source, and westward, in the same direction, by a park dyke to the Fortrose road to Invergordon Ferry, N. N. W.; by this road, so as to include the White Bog, or Glen Urquhart, till we arrive at the turn towards Cromarty, and the Burn of Killean or the Black Stank, where we meet the Mulbuie Moor, in which the boundary is uncertain.

On

On the north of this moor, we may proceed from the junction of the Fort George and Kessock roads to Invergordon, directly west, between Brea and Easter St Martin's, to the bridge across the burn of Newhall, between East and West St Martin's, then northwards between the farms of Cullicudden R. and Resolis C. until we arrive at the Frith of Cromarty, about a mile and a half west of the Ferry of Alness.

We must again cut off that piece of the ferry point of Invergordon, called Easter Balblair, as being in Ross-shire. It is nearly triangular, extending on the N. W. shore about half a mile, and on the east about one mile from the point.

How this little patch came to be excluded from the shire of Cromarty, I cannot explain. It is alluded to in the old valuation-roll of the county, taken in 1698, in these words:—"Sir Alexander Gordon, in vice of St Martins, for all the lands he bought of St Martins, except Wester St Martins, Kirkmichael, and Easter Balblair, which *is* in Ross, - L. 894 0 0"

From this, I am inclined to think, we should also include the farm of Kirkmichael in Ross, Wester St Martin and Easter Balblair being confessedly so, and accordingly are so valued in the cess-books. We would thus bring the boundary of this part of Ross-shire down to the mouth of the Burn of Newhall.

But I believe Kirkmichael is reckoned as part of Cromarty. Had the word "is," in the above entry, been "are," we might have supposed it decisive.

Of

Of the Isle of Lewis.

Before considering the subsequent alterations in the shires of Ross and Cromarty, it may be proper to take notice, that, in terms of the above act, "Ross comprehends the Isle of Lewis, pertaining to Lord Seaforth."

It is unnecessary here to inquire into the early history of Lewis. It is pretty well known, that Lewis is not an island of itself, but, in conjunction with Harris or Herries, forms an island of considerable magnitude, which, by the deep indentation of opposite arms of the sea, is divided into a larger and smaller peninsula, connected by a narrow isthmus, called, in Gaelic, Tarbat. It is not, however, generally known, that the district called Harris, in Inverness, is not confined to the smaller of these peninsulas, but extends a very considerable way beyond it; nay, perhaps the greater part is beyond it. The boundary line must be drawn from the south shore of Loch Seaforth, nearly opposite Glas Elan, in a straight line along a ridge of hills, to the bottom of Loch Resort. I am not so well acquainted with the boundary as to give a more minute description.

It must be observed, too, that Lewis comprehends the small isles of Shiant, between Lewis and Skye, and those of Rona and Barra, to the N. E. of the main island.

Of

Of the Annexations to Cromarty.

GEORGE, Viscount Tarbat, and afterwards Earl of Cromarty, who was Secretary of State, and Clerk to the Parliament of Scotland, in the regin of James II., William and Mary, &c. procured an act in 1685, annexing several lands to the shire of Cromarty. This act being afterwards repealed, another was procured in 1698, of which the following is an extract. "Act in favors of the Viscount Tarbat," annexing some part of his lands to the shire of Cromarty:

"Considering that, by act of Parliament 1685, the barony of Tarbat and several other lands in Ross-shire were dissolved from it, and annexed to the shire of Cromarty, but, in 1686, this said act of annexation was rescinded, on pretence that it included lands not belonging to the Viscount Tarbat, in whose favour the said annexation to Cromarty was made, and now, the said Viscount desiring that only the said barony of Tarbat, and other lands in Ross-shire, which belongs to him in property, and are presently possessed by him, or by his brother, or mother-in-law, in liferent, and by some wadsetters of his property, should be annexed to the shire of Cromarty; their Majesties, in favour of the said Viscount and his successors, did, with consent, &c. rescind the said act 1686, and, of new, annexed the said barony of Tarbat, and all other lands in Ross-shire, belonging in property to the said Viscount, and possessed, as said is, to the shire of Cromarty in all time coming, and to all effects; and as to any other lands contained in that act 1685, not being of the barony of Tarbat, and not being his other proper

proper lands, and possessed in manner foresaid, they are to remain in the shire of Ross as formerly, notwithstanding of this or the other act passed in the year 1685; but prejudice of the said Viscount, his other jurisdictions in these lands, as accords," &c.

By this extraordinary annexation, the shire of Cromarty has now a territory fifteen times its former extent; its valued rent has been increased threefold. But these annexations consist of so many detached parts, that a description of their boundaries would be exceedingly irksome; neither am I certain whether, in every instance, the information I have procured be sufficiently correct to enable me to give the exact outline of every distinct part. It has been found necessary, in all bills relating to roads, bridges, &c. to include the whole of these annexations in Ross-shire; although, from their being thus kept in the back-ground, very great inconvenience has been often felt, both by the counties of Ross and of Cromarty.

I have marked on the proof-sheets of Mr Arrowsmith's large map, a tolerably correct outline of each part, and shall now barely enumerate them, with reference to that for their figure and extent.

1st,

The annexations in the Black Isle are:

A. In Cullicudden parish;

1. The farms of Cullicudden, Craighouse, and Tobirchurn, on the Cromarty Frith.
2. The farms of Brea, Woodhead, and Easter Culbo, situated towards the Mulbuie.

B. In Rosemarkie parish;

Two small patches, known by the name of "the mortified lands of the town of Fortrose," having been

been bequeathed to the burgh for behoof of their poor. The extent is not more than 40 or 50 acres.

2d,

The annexations in Easter Ross:

C. In Tarbat parish:

1. The barony of Easter Aird and Easter Tarbat, comprehending all the peninsula east of the parish church, excepting the small farm of Hilltoun.
2. The barony of Meikle Tarrel, on the eastern shore.

D. In the parishes of Fearn and Tain:

1. The estate of Cadboll, (with Mid Geanies) on the eastern shore.
2. The estate of Loch Slinn on the northern shore.
3. The farms of Ballacherie, Plaids, and Hilltoun (alias Skardy), and the mills of ditto, lying all in the neighbourhood of Tain.
4. Probably some part of the Morrich Mor; an undivided common on the shore between Tain and Tarbat.

E. In Logie and Kilmuir parishes, on the south coast of the peninsula:

1. The estate of New Tarbat.
2. Priesthill in Kilmuir.

F. In Kincardine parish on the river Carran:

1. The farm of Duny.
2. ———— Amatnatua.
3. ———— Greenyards:—of this I am not perfectly informed.

3d,

The annexations in Wester Ross, and on the west coast:

G. In Fodderty parish (near Dingwall):

 1. The

1. The barony of Castle Leod or Strathpeffer; including nearly the whole of the valley of Strathpeffer, with great part of the mountain Ben Wyvis; about 22 square miles.
2. The Mill of Ousie (between Dingwall and Conan Bridge.)
3. The water of Conan, viz. the salmon-fishing of the cruives on that river.

H. Annexations in the parish of Loch Broom:

1. The district of Coigach, including the Isles of Tannera, Rustol, Isle Martin, and all the Summer Isles: the town of Ullapool is situated in this district. Extent about 160 square miles.
2. Achta Skailt, on the south shore of Little Loch Broom.
3. The farm of Meikle Gruinard, and one third of the Isle Gruinard.
4. (Ach'-n-ivie,) a Shealing on the water of Shallag.
5. Fannich and Nied a sheep farm on the north shore of Loch Tannich.
6. Tollimuic, a small farm at the head of Strathvaich.

Such are the singular annexations to the county of Cromarty. It may be observed, before we take leave of this county, that the whole of these annexed parts come under the jurisdiction of the sheriff of Ross, he being sheriff of Ross and Cromarty. These offices are united by the jurisdiction act 1748. In the event of their separation, I cannot say how the limits of each might be defined; but I presume that the districts A. and B. at least would be considered integral parts of Cromarty; but indeed a division of this kind would necessarily give rise to much confusion.

In the bills for raising the militia, &c. the districts

B, D, F, and H, fall to Ross-shire, while not only the districts A, C, and G, but the whole of the parishes in which they are situated, are included in Cromarty. The district E, is curious in this respect, No. 1, the estate of new Tarbat, although of considerable extent, being chiefly in Logie, falls to Ross-shire, while the small spot of Priesthill, as it includes the church, brings the whole parish of Kilmuir into Cromarty. It being enacted in these acts that every parish shall be considered as belonging to that county in which the parish church is situated*.

There are no sources of information from which a precise knowledge of the state of agriculture in the northern counties, previous to the rebellion in the year 1745, can be derived; but from what it has been since that time, until a period which may be limited to the last thirty years, it may safely be concluded, that agricultural knowledge was neither sought for nor desired. The mode of management which has been practised in this county, and in other parts of the Highlands, and which has been handed down from father to son for many generations, is still to be found in the midst of the most improved districts. We still see the arable land divided into small crofts, and many of the hills occupied as commons. On the west coast, particularly, the ground is seen covered with heaps of stones,

* The rest of Mr Nimmo's paper contains a similar account of the counties of Inverness and Sutherland.

stones, and large quantities are collected on the divisions between the fields, so that a considerable portion of the land capable of cultivation is thus rendered useless, by the indulgence of the most unpardonable sloth. The management of the native farmers is most destructive. The soil of one field is dug away to be laid upon another; and crop succeeds crop, until the land refuses to yield any thing. It is then allowed to rest for a season, and the weeds get time to multiply. Such, we must suppose, was the system of farming before the rebellion; we cannot imagine it to have been worse.

After the hopes of the Pretender and his adherents had been blasted by the battle of Culloden, a change of manners and sentiments was gradually introduced among the Highland Gentlemen, who, by being more frequently in company with their southern neighbours, became more polished, and imbibed a greater desire for knowledge than what they before possessed. The younger branches of families were inspired with curiosity to see the world, and with a strong inclination to improve their fortunes, that they might have it in their power to settle themselves more comfortably in their native country. Parents now paid greater attention to the education of their children, and this materially contributed to effect the change which took place in Highland manners. The fashions of the south were quickly introduced, and eagerly followed. By degrees many of the proprietors and their sons returned from serving in the army abroad, and from other occupations in different parts of the kingdom and of the world, and brought with them not only

only improved manners, but much knowledge, of which a considerable part was agricultural.

Some trifling amendments in the management of Highland estates were slowly made, but nothing of consequence can be said to have been done, until Sir John Sinclair began to call the attention of the public to the capability of the northern parts of the island for improvement. About that time an extraordinary spirit blazed forth, and agricultural information was eagerly sought. Large fortunes were brought from abroad and expended in renewing or improving family seats, and laying out the ground about them, according to the style which had been adopted in the southern parts of the kingdom. Barren hills were planted, and ere long there appeared a rage for improvement, which seemed to know on bounds. The effervescence has happily subsided, and attention is now bestowed on finding out the best modes of proceeding; and at last the example of the proprietors, in following a good system of husbandry, has ceased to be derided by their tenants as useless and extravagant.

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A

GENERAL SURVEY

OF

ROSS AND CROMARTY-SHIRES.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. 1.—SITUATION AND EXTENT.

THE latitude of the most northern point of the mainland of Ross-shire, according to Arrowsmith's map, which at present is the best authority we have, is 58° 5′ N. That of the most southern point is 57° 7′ 40″. The north point of Coigach is in N. lat. 58° 7′ 20″. The longitudes cannot be very accurately determined, until the great meridian of the trigonometrical survey of the kingdom be completed; but, according to Arrowsmith, the extreme degrees of longitude between which

which the counties lie, are 3° 45′ 30″, and 5° 46′ 20″ W. The latitude of the Butt of Lewis is 58° 27′, and of its southern point, 57° 54′ 20″. The number of square geographical miles in Ross-shire is 2427½, of which the interspersed parts of Cromarty amount to 240. The old county of Cromarty contains only 18½. G. M. The island of Lewis contains 431¾, G. M. The district of Ferrintosh (which is in the county of Nairn), 7 G. M. The number of British square miles will be nearly as follows:

Mainland, - -	3236⅔	
Lewis, - - -	562⅓	
		3799
Of which in Cromarty,	344⅔	
In Nairn, - -	9⅓	
		354
Ross alone, - -		3445

By this it appears, that Ross-shire is almost exactly ten times the size of Cromarty-shire; but more than a hundred and fifty times the size of the old shire.

The English acres contained in a square mile being 640, and the Scotch acres 503.64, we have

	Eng. acres.	Scotch acres.
In the Mainland,	2,071,466	1,630114
In Lewis, - -	359893	283212
	2,431359	1,913326
Of which in Cromarty,	220586	173587
And, in Nairn, - -	5973	4700
Ross alone,	2,204800	1,735039

The

The above calculations are not given as scrupulously exact, but they are as near the truth as the present state of our knowledge of the geography of the counties will admit. It must be observed, that the number of acres, &c. stated, is that contained in the base of the counties, the elevations of which must occasion a very great difference between these calculations and actual survey. Excepting some trifling errors which Mr Arrowsmith had it in his power to avoid, his map is very correct*. Some of the latitudes are doubtful; but on the whole, the map presents a very accurate delineation of the position and aspect of the country.

There are two small islands, the property of Lord Seaforth, Rona and Barra, which are to the north of Lewis, between 20 and 30 miles.

SECT. 2.—DIVISIONS.

POLITICAL.—The county of Cromarty, and the district of Ferrintosh, are under the jurisdiction of the Sheriff of Ross, but are placed under different Lieutenants. The Sheriff has three substitutes, one of whom holds his courts at Tain and Cromarty; the second at Dingwall and Fortrose; and the third at Stornoway, in the island of Lewis.

There

* Since this went to press, I have been informed that Mr Arrowsmith is about to publish a second edition of his map. I have therefore sent to him such corrections as the shortness of the notice allowed.

There is a numerous list of Justices of the Peace for both counties. In so far as regards the Lewis, and the west coast, the list cannot be called effective, for all revenue causes are brought from these districts to Dingwall, to the great loss of the persons accused. In some recent instances, the justices of the west coast refused to act; and in some late revenue causes, the justices of the middle district declined putting the last act, respecting illegal distillation, into force. Courts are held at Tain, Dingwall, Fortrose, Cromarty, at Ardelve and Loch Carron in rotation, and at Stornoway. For transacting the business of the Lieutenancy, the county is divided into five districts.

For the purposes of the act of Parliament, converting the statute-labour into money, the counties are divided into eight districts. The vulgar divisions are, 1st, East Ross, extending from Tarbat-Ness to the river Alness; 2d, Fearn Donald, extending from the river Alness to the burn of Cline; 3d, West Ross, comprehending all the low country from Cline to Contin, on the north sides of the river Conan and Orrin; 4th, the Highlands, which include the whole mountainous country to the north of Strathpeffer, and westward from Contin, and the base of the hills extending from the river Orrin towards Beaulie. This base is the western limit of the 5th division, or peninsula called the Black-Isle.

Ecclesiastical.—Ross and Cromarty-shires contain thirty-three parishes. Of these, seven are on the west coast, and four in the Lewis, and one is included in the synod of Glenelg; the others are within the bounds of the synod of Ross. The latter synod is divided

vided into the presbyteries of Chanonry, Dingwall, and Tain. The presbyteries of Loch Carron and Lewis, which consist of parishes in Ross-shire, are attached to the synod of Glenelg.

Many of the parishes are of very great extent; so great, that it is impossible for any one minister, even assisted by a missionary, to perform the duties imposed upon him, more especially as the manses are not placed in central situations. The missionaries of this county are maintained by the royal bounty, and the Society for Propagating Christian Knowledge. The salaries are, however, so small, that we seldom find a person in such an office, able by his abilities and knowledge to fill it properly. It has become too much the custom for people of the lowest order to aspire to holy orders. They presume, that nothing is necessary but a little Greek, Latin, and Hebrew, and a knowledge of the general doctrines of religion; and the consequence of this has been, that extreme ignorance, prejudice, and superstition in matters of religion, have established their influence over a great proportion of the mass of the people. A knowledge of human nature, and of the world, is absolutely indispensible among the qualifications of a clergyman. We have ministers that are grave; some that are more accommodating in their notions of proper religious behaviour; and some, I am happy to say, who steer that middle, but firm course, which gains respect from all, and enforces the happiest example. By these observations I am far from intimating, that talents and virtue cannot rise from the lower ranks of life:—God forbid that I should ever harbour a thought hostile to the elevation of natural

tural genius, or unprotected virtue, from whatever source they may spring. I am proud to reckon among the clergy, as my friends and acquaintances, men whose talents and virtues are an honour to their country, and whose acquirements derive double lustre, when the humble walk of life from which some of them have raised themselves is known; for, in their progress towards eminence, we behold industry, perseverance, and virtue, which, when combined, never fail to call forth the admiration and respect of the world.

The provisions for the maintenance of the clergy and schoolmasters are in general very ample, although it must be allowed, that, in some cases they are but moderate, considering the duties to be performed, and the rank in which a minister of the gospel ought to be supported.

Stipends

Stipends paid to the Ministers and Schoolmasters.

Parishes.	Meal.					Barley.					Money.			Schoolm		
	C.	B.	F.	P.	L.	C.	B.	F.	P.	L.	L.	s.	d.	L.	s.	d.
Alness,	4					4					42	0	0	22	4	5⅓
* Applecross,											100	0	0			
Avoch,	5					4					60	7	2	18	2	2½
Contin,	2					2					100	0	0	22	4	5⅓
† Cromarty,	4					4					38	8	0	22	4	5⅓
Dingwall,	4					2					71	2	3	22	4	5⅓
Edderton,	3	12				3	12				43	0	0	18	0	0
Fearn,						11					40	0	0	22	4	5⅓
Fodderty,	1	4	1	2		7	11	2	2		58	6	8	22	4	5⅓
‡ Gairloch,	8					8					78	6	8	16	13	4
* Glenshiel,											88	7	9½			
Killearnan,	3	3				9	1				8	12	0	22	4	5⅓
Kilmuir, Wester	9	1				3	3				8	4	4½	22	4	5⅓
Kilmuir, Easter	4					4					46	8	4	22	4	5⅓
¶ Kiltearn,	4	4				4	4				55	6	8			
Kincardine,	5	5	1	1	1⅔	2	10	2	2	2⅓	75	0	0	22	4	5⅓
* Kintail,											91	12	6			
Kirkmichael (Resolis)	5					5					41	13	4	16	13	4
* Lochalsh,											88	7	9½			
§ Lochbroom,	3					3					91	2	3¼	22	4	5⅓
* Lochcarron,											105	0	0			
Logie,	1					5					50	0	0	22	4	5⅓
Nigg,	1					9					28	6	8	22	4	5⅓
Rosskeen,	4					4					66	13	6	22	4	5⅓
‖ Rosemarkie,	3					6	8				25	16	8			
‖ Tain,	5	8				5	8				33	6	8			
Tarbat,	4	8				4	8				38	17	9	22	4	5⅓
Urquhart,	1					6					50	0	0	20	0	0
Urray,						10					11	2	2⅔	22	4	5⅓

* The ministers of the parishes marked thus, have no victual stipend. Some of them have, however, lucrative farms. The schoolmasters' salaries are not I believe fixed. Their emoluments amount generally to L. 30 or L. 40.

† The schooolmaster receives the salary, and also a mortification arising from certain lands left under the management of the kirk-session more than a hundred years ago, by a Mr M'Culloch of Goodtrees, and now held in perpetual feu by the proprietor of the estate of Cromarty, for the annual payment of nine bolls of barley or oatmeal, as the schoolmaster may choose. He has also an allowance of L. 2 for a house, and L. 1, 7s. 9⅔d. for a garden.

‡ The minister of this parish refused L. 40 per annum for his glebe.

¶ The schoolmaster of this parish receives, instead of a salary, 1 ch. barley, 2 b. meal, 100 merks.

§ The glebe attached to this living is valuable. I understand, that little less than L. 100 have been stated as the rent.

‖ There being an academy at Fortrose, in the close vicinity of Rosemarkie, and a grammar school at Tain, there are no parish schools at these places.

The average number of scholars attending each parish school may be stated at 40.

SECT.

SECT. 3.—CLIMATE.

THE farmers in this county, in common, I believe, with those of almost every part of the Highlands, attend very little to climate, as it affects the different crops which they attempt to raise. It may be proper to offer, under this title, some remarks which may lead them to pay regard to a subject well deserving their attention.

Disregard to heat and moisture has certainly very much retarded the improvements of the north of Scotland. The noble zeal which has been almost every where displayed, in the adoption of new and improved practices, must not be blamed; but that in too many instances it has not been accompanied by proper discrimination in respect to local circumstances, is much to be regretted. New practices should never be too hastily adopted, merely because they have succeeded in another place, where, perhaps, their success depended entirely on some peculiarity of climate.

Climate properly signifies a space on the earth bounded by two lines parallel to the *Equator*. But there are a number of circumstances, besides vicinity to the equator, or distance from it, which have great influence on the temperature and moisture of particular places.

The composition of the atmosphere is of less importance to be known to the farmer, than its mechanical properties; although a knowledge of both, especially if he extends his inquiries to their influence on vegetable life, will be found both useful and entertaining.

The

The atmosphere is capable of receiving and communicating various degrees of heat. Wind passing over a warm region will become heated, and, in passing over one that is cold, will give out the heat it had acquired, and become cold again.

The air is capable of being set in motion by natural and artificial means; and it possesses the property of sustaining moisture, and every substance which is lighter than itself. It presses equally on every side of any body exposed to it; and were it not for the tendency which all matter has towards the centre of the earth, any thing once placed in the air would remain suspended. The weight of the atmosphere is subject to frequent variations, and the change of density is made use of to prognosticate the weather, by means of an instrument called a barometer. During the prevalence of easterly wind, the indications of barometers are not to be depended on. Violent squalls and rain may come from the east without a barometer being affected; the cause of this is not precisely known. By attending to the quarter from whence warm winds usually blow, and by observing what winds bring most rain at different seasons, the farmer may derive a sufficient knowledge of the climate of his situation, to enable him to guide his operations.

There are modes of husbandry proper for dry and warm situations, which are quite unsuitable for cold and wet ones. Many crops are attended by great risk in some places, at no great distance from others where they succeed very well. Systems of pasturage ought also to be regulated by climate. Sheep can bear any degree of cold if well fed, but they generally suffer from moisture. Therefore, on cold wet hills, cattle

cattle are a safer stock than sheep. Wood of all kinds thrives best in moist climates, and on that account, trees may be planted on moist ground, so as to become profitable in themselves, and a shelter to the drier lands. Corn decreases in weight as we proceed northward, and the heaviest is always found in dry and warm situations.

The mean degree of heat of any situation is naturally first attended to in the investigation of climate. The methods of discovering this are various; but for the most part uncertain. To arrive exactly at the truth, it is necessary to take the mean of the daily variations of the thermometer for a series of years, a task which few have opportunities of performing. It has been found that the temperature of the earth, at a certain depth below the surface, is always the same, when no particular circumstances, such as the evaporation of moisture, or currents of air, occur to cause a variation. From this the heat of pits and mines has been assumed as the mean temperature of places where they are. But as these are usually charged with moisture, the evaporation of which produces cold, this is not a good method of judging of the average annual heat of a place. I do not know that it has been ascertained at what precise distance from the surface of the earth the temperature begins to be steady. But it has been ascertained that there is little, if any, variation beyond a depth of a few feet. This is known from the steady temperature of the most constant springs. Their heat may therefore be taken as the average heat of the year, with a certainty of its being very near the truth, in respect to the place where the springs

springs are situated *. In a country not much elevated, and in close vicinity of the sea, the average temperature may be known by plunging a thermometer into the water at a short distance from the shore. But where there are currents, or where, by exposure or other circumstances, the water may be liable to frequent changes of temperature, no reliance can be placed on this method. The same may be said of large and deep lakes. Elevation above the sea, as well as latitude, causes variation in climate, in respect to heat and other circumstances; the heat becoming less as we ascend. This is very generally understood, but not so generally attended to. But the mean heat of the year is not of so much importance to the growth of plants, as the duration or steadiness of it, at a certain degree, during a particular season. In this respect the insular situation of Britain subjects it to some disadvantages; and these are chiefly felt in the narrower parts of the island. Our winters are much milder than those of the Continent, but our summers are colder. Many delicate fruit trees withstand the severest cold without being injured. Here they seldom ripen their fruits, on account of the short duration of our greatest summer heat; while, on the Continent, under the same parallel of latitude, where

* Professor Leslie is engaged in some very interesting and important experiments on this subject. He has found that the heat of springs varies with their elevation, so that the height of mountains may be very nearly ascertained, by marking the temperature of springs at different heights. In a new edition of the Professor's work on Heat, which is now preparing, the subject of climate will be fully discussed.

the heat of summer is more intense and lasting in proportion to the severity and duration of winter, the same fruits arrive at the greatest perfection.

Our climate is attended by another disadvantage, which greatly retards the progress of our crops and fruits towards ripeness, and that is, the great difference which is experienced between the temperature of day and night. This is chiefly observable in situations where the soil is moist, and in the neighbourhood of the sea.

In this country it cannot be said that we enjoy the season of spring until the portion of the year so denominated has passed. The heat of the months of July and August is often equal to, and sometimes more considerable than the greatest heat experienced in England, but with more variation between day and night. On the eastern shores the winter is usually colder than it is on the western, and the summer is proportionally warmer. From this last circumstance, and owing to the quantity of moisture being more moderate than along the western coast of Scotland, the eastern part of the country is better calculated for the growth of all sorts of grain. On the western coast the crops in general appear to be luxuriant in their growth, but their progress towards maturity is very slow, on account of the short duration of a proper degree of heat. While a due degree of heat continues, the corn makes rapid progress; but it is liable to receive many checks. This shows the propriety of selecting early varieties of corn for such a climate as that of Ross-shire, and more especially for that which obtains on the west coast.

Our winters are very variable; and the frequent and sudden changes of temperature during spring and autumn are very severely felt.

When

When our springs are late we are pretty sure of our gardens containing abundance of fruit; and that the summer heat will be more uniform than usual. When warm weather sets in about the beginning or middle of March, frost usually recurs during April and May, and checks the forward vegetation, and sometimes destroys it.

It has already been mentioned that latitude is a cause of variation in climate. It has been estimated, that a degree of north latitude subtracts one degree of mean heat from the climate. Thus, if the mean heat of latitude 56° be 47° of Fahrenheit's thermometer, that of latitude 57° will be 46°. The mean annual temperature of any place not much elevated above the level of the sea, may be found very accurately, by subtracting the latitude from the number 103.5. Thus, if we desire to know the mean heat of any place situated under latitude 57°, this number being subtracted from 103.5, leaves a number expressing that the mean annual heat is 46½°. For the first ten degrees above 50° one must be added, so that the mean temperature of latitude 60° will be found by subtracting that number from 104.5, viz. 44½°. For the next ten, one and a half more must be added, which will show the mean heat of 70° to be 36°. On going to the south of 50°, one must be deducted from the number 103.5, at ten degrees lower one and a half more, and so on *.

It has been noticed, that the heat decreases as we ascend. Even near the equator, high mountains are covered

* This depends on a particular property of the circle.

covered by perpetual snow. Attention must therefore be paid to the height of a place above the sea, when the crops most suitable for it are under consideration. At the same time it is proper to remark, that sloping and well sheltered banks are warmer than flats. Our distance from the sun is not sensibly greater than that of the hottest regions of the earth. It is the direction in which the sun's rays fall which occasions the difference of heat. When the rays fall perpendicularly, more of them will strike on a given space than when they fall in a sloping direction. Therefore, as at one or two periods of the day the rays of the sun may fall perpendicularly, or nearly so, upon a bank, greater warmth will be felt upon it than upon a plain. This may suggest the idea of building garden walls so that the fronts may slope backwards. I have seen the fruit on trees which had been trained upon a roof, ripen much earlier than that on trees nailed on a perpendicular wall.

The sides of hills are colder than plains, from various causes. They are more distant from the heat of the great mass of the earth, and in a manner cut off from its influence. The atmosphere around them is liable to be often set in motion, and thus any heat which may occasionally be accumulated is rapidly carried away. The attraction of moisture by high grounds is another cause of their being colder. The greatest height at which corn will grow in this country, so as to yield any profit to the husbandman, may be stated at 500 feet above the level of the sea.

The climate of countries near the sea, or surrounded by it, is materially affected by this vicinity. From a variety of causes the temperature of the sea is more uniform

uniform than that of the land, and, consequently, the neighbouring atmosphere will be kept in a more equable state, in regard to heat, than that portion of it at a distance from the sea.

The character of a climate is greatly influenced by prevailing winds. The winds which pass over a large tract of water will be more equal, and higher in their temperature than those which blow over land. Hence we find that the east and north-east winds, from having blown over the coldest regions of Europe, are much colder than the west and south-west winds, which blow over the Atlantic Ocean. The former are the driest winds. The western shores of our island, by being exposed to the falling of the moisture carried by our prevailing wind, labour under very great disadvantages in this respect. Besides their heat and moisture, the strength of the most prevailing winds at particular seasons ought to be attended to.

During, or soon before or after the equinoxes, we have invariably violent gales from the west and north-west, for the most part accompanied by rain. We sometimes experience very strong gales from the east and north-east; but the most frequent and most violent proceed from the west and north-west.

The general aspect of a country affects the climate in a considerable degree. A southern aspect is warmer than a northern one; and, accordingly, we find, that corns ripen earlier and better on lands facing the south. It often happens, that the soil towards the north is better than that sloping to the south; but it is not what is termed an early soil. At the same time, it must be observed, that such land is least subject to frequent variations of temperature. The greatest part of the arable land

land of Ross-shire has a southern aspect; that of Cromarty and Ferrintosh a northern one.

Greater advantages can be derived from plantations and hedge-rows on a southern than on a northern exposure, as in the former, they will have full effect in accumulating the heat from the rays of the sun. Hedge-row trees are often, and perhaps justly, condemned as taking up too much room, and overshadowing the crop. But this is probably balanced in our cold country, by the general shelter they afford, and the heat which they accumulate. But there are trees not liable to the objections usually stated. The pine tribe affords means of shelter superior to all other kinds of trees; and, from the manner of their growth, they do not overshadow the crops. The spruce fir, in particular, affords complete shelter, and is very ornamental during winter. In some parts of Ross-shire, the fields are intersected by too many hedge-rows, which are too sparingly distributed in other parts. Large tracts of wood render a country colder than one that is open; but beltings, and even considerable plantations on hills, are of much service in cold countries, on account of the shelter they afford from cutting winds.

Light soil is warmer than clay, and sand still more warm. Clayey and deep rich soils retain more moisture than light ones; and it is well known, that the evaporation of moisture causes cold. Rain easily penetrates and passes through light soil, from which the evaporation is consequently less, and sooner at an end, than from heavy soils. The reflection of the sun's rays is most considerable from sandy soils, and the atmosphere near them will consequently be warmer than that resting on soils that are retentive.

There

There is little, if any variation in the mean annual heat of the different districts of Ross-shire. But there is a considerable difference in the duration of summer heat on the east and west coasts; the former having the advantage in this respect, and also in the proportion of rain that falls. The mountains to the eastward of Ben Wyves lessen quickly, and lose themselves in the low country of the eastern district. The clouds from the west are attracted by Wyves, and from that mountain pass towards Sutherland. The clouds from the north east pass the contrary way; and thus the eastern parts of the country receive but a moderate supply of rain, at the very time when the western districts are probably drenched.

The eastern district might have its mean heat, and also the steadiness of the summer heat, much increased by the draining of the bogs and small lakes with which some parts of it abound. What has been done already in the way of draining and otherwise improving it, will be noticed more particularly afterwards. Besides an increase of heat, the attainment of a large supply of marl is a temptation sufficient, one would think, to hasten an improvement, the effects of which would be very beneficial and lasting.

During three fourths of the year, the wind blows from between the points S. W. and N. W. The heaviest rains proceed from the southward of west. Snow storms most frequently come from the N. W., but the most severe ones are from the N. E. During summer, the south and south west winds are sometimes accompanied by thunder.

On the whole, the climate of Ross and Cromarty-shires must be considered as moist, but particularly so in

in the western districts. The average annual temperature may be stated for the whole county at 46°. Snow falls in greatest quantity in the month of February; but severe storms are sometimes experienced at an earlier period of the winter. It has been remarked, that the climate has been becoming worse for many years. I can answer for the truth of this since the year 1796; and I judge from the ripening of certain garden fruits. About that time I had ripe peaches sent to my shooting quarters from the open wall, in the month of August. I have not had them well ripened since, till the middle of September, sometimes later, and often not at all. Strawberries and gooseberries are at least a fortnight later of ripening than they used to be in my own remembrance. I have heard it said, that it was no uncommon thing formerly to see new meal exposed to sale at the Contin fair, which is held on the first Wednesday of September. If our corn looks ready for the sickle at that time, we now reckon ourselves very fortunate.

By sowing early varieties of corn, many farmers obviate the effects of the short duration of our greatest summer heat.

SECT. 4.—SOIL.

THE greatest part of the soil of these counties is light and sandy. About Dingwall, and in part of Strathpeffer, the soil is heavy, approaching to clay. The

The greatest part of the flat lands in the eastern part is clay, and the rest is sandy soil of various kinds, mostly loamy. There is also a considerable extent of moorish soil in that quarter. The peat mosses of this part of the country appear to be very capable of improvement by draining and liming. The soil of the mountains is for the most part peaty. That of the narrow vallies between them is chiefly sandy; but good mould and loam are sometimes met with in such situations.

The soil of the Black Isle is various; much of it being very poor. What is in cultivation is partly clay, and partly good black mould, and sandy soil. It has been remarked of the soil of Achterflow, that it is the best adapted for wheat, though high; and that oats improve by being repeatedly sown in it.

In the present state of the nomenclature of soils, I do not feel myself warranted to venture on a more particular description; far less on an attempt to distinguish the boundary of each soil on a map, as has been done by the surveyor of Inverness-shire. To do so, with the least approach towards accuracy, would require more labour than all the rest of the survey. Indeed, the soil of the Highlands varies so much in a small space, that I do not hesitate to pronounce it impracticable to define the boundaries of each kind. I believe that many who read of a particular sort of soil, understand it to be, by the name given to it, a kind very different from that which is meant to be described. We read and talk of mould, of loam, and of a great many varieties, whose names are not given according to any fixed rule. Although the farmers of even more than one district may understand perfectly

what is meant by each other, yet I have known some who were near neighbours differ about the name of a soil.

We have many descriptions of advantageous modes of culture which have been followed, and the soil on which they have been practised may or may not have been specified. If a person gives an account of the best method of cultivating wheat, and does not precisely describe his soil, it may happen that of those who follow his steps, some may succeed, and others may be lamentably deceived. There can be no doubt that the same style of cultivation will not succeed in every soil; and therefore, when a new mode of culture is tried, and fails, it is often very unjustly condemned, when the fault lies in the soil, and in the misunderstanding of the farmer; or, which is most probable, in the description of the soil on which the experiment was originally made. From such causes many excellent improvements have been neglected. I cannot pretend to be able to remedy the defects at which I have hinted; but in hopes that some person properly qualified will take up the subject, I shall venture to state my opinion, that what are at present understood as generic terms, ought to be retained and properly illustrated. These are, mould, clay, sand, gravel, peat.

1. My ideas of mould are, that it is a soil whose parts are minutely divided; which contains at least three-fourths of vegetable matter in a state fit for the nourishment of plants; and whose colour, from the last mentioned circumstance, approaches to black.

2. Clay is various in colour, and is well known by its being capable, when moistened, of being wrought into shape.

3. Sand

3. Sand also varies in colour, and consists chiefly of silicious particles.

4. Gravel is a collection of stones of different sorts, sizes and colours, rounded by the action of water.

5. Peat is entirely composed of the remains of vegetables, and from its stringent nature, is unfit to nourish corn plants. The different kinds of peat are distinguished by colour and compactness.

With regard to the varieties of soils arising from the intermixture of the above, which perhaps may be denominated *primary* soils, my ideas are as follow:

1. Mould loses its character entirely, when mixed with any other soil in a proportion exceeding one fourth, and the name *loam* is assumed to denote such a mixture, and has different qualities applied to it.

When the admixture of clay does not exceed one half, the soil is clayey loam.

In the same manner are applied the other terms, sandy, gravelly, peaty, according to the predominance of one over another. The colour ought to be added in a description of them.

2. Clay may be loamy, sandy, &c.

3. Sand may be coarse and fine, loamy, clayey, &c. and of different colours; and also calcareous.

4. Gravel may be small or large, loamy, clayey, &c. and also calcareous, and of different colours.

5. The surface of peat is sometimes found reduced to the state of mould by natural causes, and is frequently found in conditions to which the qualities attached to other soils are applicable.

The colour of soil is occasioned by different substances. Vegetable matter causes black and grey of different shades. Iron causes red, yellow, brown, and blue,

blue, of different shades. It may be of importance to describe the colour of soils both when dry and wet*.

When any particular mode of culture, and the growth of any vegetable is described, the exposure and elevation of the soil, and its vicinity to the sea, or large lakes, should always be noticed. The subsoil is in almost every situation of much importance to be attended to.

It is much to be wished, that some experienced agriculturist would take up this subject, and endeavour to reduce the names of soil to as small a number as possible, and to fix an intelligible standard, which may be appealed to over the whole empire.

SECT. 5.—MINERALS.

The mineralogy of Ross-shire is but very little known. Mines of the more valuable minerals are oftener discovered by chance than search. We may however, hope that, since the studies of mineralogy and geology have become fashionable, we shall soon be better acquainted with the nature and contents of our rocks.

Coal, the most important of all economical minerals, has

* The texture of soils may perhaps be denominated by the terms, *heavy*, *stiff*, *stiffish*, *free*, *light*. The degrees of wetness may be included in the terms *wet*, *moist*, *damp*, *springy*; which last may denote land partially moist. In relation to the subsoil, the word *retentive*, in respect to moisture, may be found very useful in denoting one extreme, and *open*, the other.

has not yet been properly sought for, although there are indications of the existence of this substance, sufficient to warrant fair trials, in almost every part of the Black Isle and eastern parts of Ross-shire*.

The only part where I have found limestone in the eastern district is near Geanies and Cadboll. A small quantity appears on my property at Kirkan, on the road to Ullapool. There is great abundance of this valuable stone on the west coast, where it is least wanted.

Copper has been wrought in primary limestone near Keeshorn. The sides of the drift have fallen in; and there was so much water collected, when I went to examine it, some years ago, that I did not deem it prudent to enter into the mine. The present proprietor invited miners to visit it, but while it remains inaccessible, he cannot expect any person to go near it. The working of the mine was given up, I am told, on account of some misunderstanding between a former proprietor and the miners, respecting a birch wood, which was required for charring and various other mining purposes. I could not find any of the ore; nor could I discover any traces of it in the strata of the neighbourhood. But my examination, for want of time, was superficial. A complete one may be expected to be made by Mr Mackenzie, younger of Applecross, who has attended much to the science of mineralogy, and is every way qualified to make perfect observations.

I

* Just as this was going to press, I learned that a person is now boring for coal on the estate of Ethies in the Black Isle, the property of Mr Baillie, M. P.

I was informed that lead ore had been dug on the north side of Loch Maree. I visited the place where the trial had been made, but could not discover any traces of ore. It appeared that a large vein of calcareous spar had tempted some one to make a search.

There is plenty of iron-stone on the west coast. Almost every where we find abundance of iron slags; and the remains of a large smelting furnace near Poolew, shew the manufacture of iron to have been once an important business in that part of the country. A considerable part of the furnace is yet entire, and the water courses for machinery are still visible. I have in my possession the breech of a cannon, apparently spoiled in casting, which lay near the ruin of the furnace. Although the great quantity of slags found in different parts of the country might lead us to expect to find the remains of furnaces in other places, I have heard of none; and I believe there is no other but the one just described.

Marl has been found in large quantities, in various parts of the eastern district. There is great abundance of it at Culrain, very accessible, and at a short distance from the sea shore; but, in general, farmers prefer Sunderland lime. Although the effects of marl are not so sudden as those of lime, yet there seems little doubt of its being the best form of calcareous manure for light sandy soils.

Economical mineralogy is a subject of much importance; but it is impossible, in a report like this, to give a detailed account of the various minerals which exist in this country.

It is probable that, when the Board of Agriculture shall turn its attention more particularly to the benefits to be derived from the mineralogy of the kingdom

being

being explored, government will lend its aid, in order to have mineralogical surveys made under the direction of the Board. But should such surveys be ever thought of, they ought not to be entrusted to superficial and needy observers, but to men of science.

SECT. 6.—WATER.

The eastern coast of Ross-shire is washed by three large arms of the sea; the Dornoch, Cromarty, and Murray Friths. There are many situations on this coast, where safe and excellent harbours might be constructed, which would both serve to shelter vessels in rough weather, and greatly benefit the country by facilitating commerce. When other counties obtained an ample share of the money arising out of the forfeited estates, Ross-shire was neglected; although out of it a great part of the money was derived. It has been our misfortune not to have been represented in Parliament, by men who had leisure from their professional avocations to attend to our interests, or a *persevering* genius like that of Sir John Sinclair, who never lets any opportunity of benefiting his country escape him. At the time when the money already mentioned was appropriated, our present worthy representative in Parliament was absent in the service of his king.* But there

* Since I sent this sheet to the press, this country has had to lament the death of Major-General Mackenzie Fraser. So perfectly worthy a character as his was is not often to be met with.

there were others connected with this country near enough to the Houses of Parliament, who might have thought of the advantages which a small sum, laid out on harbours at Dingwall and Portmahormack, would have brought to us*.

The western coast is intersected by eight arms of the sea, which are the resort of vast shoals of herrings. The principal fresh water lakes are Loch Maree, and Loch Tannich. The former is about fifteen miles long, and the latter about seven. Besides these there are above twenty considerable lakes, and a great number of small ones. In all of them there is abundance of fine trout, and pike, and in some of them chars are found. In Loch Maree is that species of trout called the gizzard trout. These lakes are frequented by a great variety of wild-fowl; and during winter swans are seen on many of them in considerable numbers. The largest rivers on the western coast are the Ew, the Carron, and the Broom. The first is frequented by prodigious numbers of salmon, and is perhaps the best angling stream in Britain. A considerable number of salmon are taken in the Carron and at Ullapool; and there is hardly a stream, however small, on this coast, in which salmon are not taken during the months of July and August.

The

* A subscription was a short time ago set about to raise money for making a pier at Dingwall. The inhabitants and several proprietors in the neighbourhood subscribed liberally. But Lord Seaforth having announced that the measure proposed would interfere with some schemes of his own, and Mr Davidson of Tulloch having hesitated, and lastly, the Commissioners for Highland Roads and Bridges having expended all the harbour-money, the prospect of an improvement of so much importance being completed, is removed to a great distance.

The chief rivers on the eastern coast are the Conan, Carron, (another of the same name) and Alness. The Conan and Alness empty themselves into the Cromarty Frith, which also receives several streams of less note. The Carron is the only river of Ross-shire which empties itself into the Dornoch Frith. The Oikel is part of the boundary between Ross and Sutherland shires. The salmon-fishings of these rivers are very productive.

There are several springs in Ross-shire impregnated with sulphurated hydrogen gas. The one in Strathpeffer is the most remarkable, on account of its being much frequented by the Highlanders, and by strangers. There are a considerable number of chalybeate springs, but their virtues are not much regarded. Indeed the once famed virtues of the Strathpeffer spring are beginning to be neglected. It has been celebrated for curing all sorts of diseases, particularly scrofula, and affections of the skin. It used also to be frequented by women who had been disappointed in their expectations of having children. The fresh air which circulates around the spring, and the pleasantness of the country in which it is situated, by tempting invalids to walk abroad, probably contribute more than the water to the restoration of their health.

CHAP. II.

STATE OF THE PROPERTY.

SECT. I.—ESTATES, AND THEIR MANAGEMENT.

THE value of land has greatly increased in these counties. Until of late, few estates have changed their owners. A very large proportion is strictly entailed, which has most probably prevented a great deal of land from coming to the market. It is generally one of the principal objects of young men leaving the Highlands, to return with the means of purchasing an estate. Almost all the land which has appeared for sale for some time past, has been bought by natives of the north of Scotland, who have shewn, by the prices which they have paid, the strong desire they felt to possess land in their own country. It does not appear to be very likely that the profits from land can go on multiplying as they have done of late years, for any length of time. Exclusive of the first purchase-money, a great deal of capital must be expended, before land in this part of the kingdom can be brought to its most productive state. When this has been

 fully

fully discovered, and while there remains any way open for the employment of capital, by which it will return more speedily than when vested in land, the price will probably become stationary, if it does not fall. If proprietors continue to prefer living in one of the capitals, and expending their rents there, to residing upon their estates, and improving them, it is probable that land will be cheap enough. When once a proprietor gets into debt, and, feeling the necessity of having money, puts himself into the hands of law-agents, he very seldom gets free. There is a vulgar saying, which is too true, that a broken laird is a lawyer's harvest.

Until of late, almost every estate in this country was managed entirely by factors, who in general had powers, to which their discretion did not entitle them. There can be no doubt that the less a factor has to do with the management of an estate, the better. The temptations to which he is constantly exposed, when full powers are given, are sometimes greater than a man of ordinary virtue and fortitude can resist. Instances were very lately to be seen, in which the factor made as much of the estate, if not more, than the proprietor. Within my own remembrance, a factor has been known to insist on the tenants of an estate travelling a dozen miles with their horses and ploughs to labour his farm, before they dared to turn a furrow of their own. Such a thing will not, I trust, be seen again. The crowded population of the Highlands, and their consequent slow improvement, must be attributed in a great measure to the extensive power formerly given to factors. It was their interest to bestow favours on as many people as possible, that services,

vices, money, game, whisky, &c. might be at their command in plenty.

It is pleasing to observe the improvement which has taken place in the management of Highland estates in general. A great number of proprietors do not employ factors at all. Others employ them merely to collect the rents, and to execute any orders which may be given to them. Many factors have farms; but they do not, in every instance, shew much knowledge of rural economy; although it must be acknowledged that they are improving. Many of them are law-agents, and of course, cannot have much time for attending to their farms. Whether a lawyer be the most proper person to employ in managing a numerous tenantry, is a question which certainly merits some discussion, but on which, for obvious reasons, I must decline to enter.

SECT. 2.—TENURES.

THE greatest number of estates in Ross and Cromarty-shires are held directly of the Crown, vice the Earls and the Bishops of Ross. The feu-duties formerly paid to the earls and bishops, are now levied for the Crown; and being payable chiefly in kind, convertible at the fiar prices of corn, they have become a very heavy burden on the estates from which they are taken. The conversion used to be fixed at two-thirds of the fiars of Fifeshire; but a demand was made a few years

years ago, that the conversion should be made according to the fiars of Ross. This has been resisted by almost all the Crown vassals, and payment has been suspended for some years.

The following tables shew the amount of the Crown and bishop rents, and the valued and real rent of the different parishes.

I found the following rental in my charter-chest, written in an old character. It has no date.

RENTALL of the haill Fermes, Maills, and Kanes, within the Erledom of Ross and Lordship of Ardmenoche, assignit to the Queenis Matie in compensation.

In the first, the lands of Meikill Allane, extending yearlie in beir and meill, to - - -	vi *ch.*
In pultrie - -	x *pultrie*
Culrossie in beir and meill -	iii *ch.*
Pultrie - -	iiii
Drummediah in beir and meill -	iii *ch.*
Pultrie - -	iiii
Glascullie in beir and meill -	vi *ch.*
Pultrie - -	viii
Drumgillie in beir and meill -	vi *ch.*
Pultrie - - -	ix
Meikill Methat in beir and meill -	vi *ch.*
Pultrie - - -	vi
Wester Pollo in pultrie -	i
Ruffis poultrie - -	i
Knocknapark in pultrie -	i
Ballantraid pultrie - -	i

Faychlathie

Faychlathie in pultrie -	i
Ardnagaag in pultrie -	i
Delney in beir and meill -	iii *ch.*
Incheffnir in pultrie - -	i
Kincraig in beir and meill -	iii*ch.* viii*bolls* i*p.*
In martis - - -	ii
Mutton - - -	ii
Aittis - -	xii *bolls*
Culkenny in beir and meill -	i *ch.* viii *bolls*
Aittis - -	xii *bolls*
Martis - -	iiii
Mutton - -	iiii
Craigmilne in beir and meill -	i *ch.* ii *bolls*
Cullichmamch in beir -	vi *bolls*
Martis - -	ii
Mutton - -	ii
Tullichmoir in beir - -	i *ch.* xiiii *bolls*
Aittis - - -	xii *bolls*
Martis - -	iiii
Mutton - -	iiii
Brechnach in pultrie - -	i
Balcony, with the brewland of half dails of Killmalock, the lands of Culfluttaris, Craft-craggy, the milne of Aldnes, the yair of Balcony, and steill of Ardtoy, in beir and meill -	ii *ch.* viii *bolls*
Martis - -	ii
Mutton - -	ii
Capones - -	xii
Pultrie - -	v
Culcarnein beir and meill -	iiii *ch.* viii *bolls*
Aittis - -	ii *ch.* iiii *bolls*
Capones - -	xii

Swerdell

Swerdell in beir and meill -	i *ch*, viii *bolls*
Aittis - -	xii
Martis - -	iiii
Mutton - -	iiii
Pultrie - -	ix
Fyris beir and meill - -	i *ch.* viii *bolls*
Aittis - -	xii *bolls*
Martis - -	iiii
Mutton - -	iiii
Pultrie - -	xiii
Milne of Culcraigy in beir and meill	ii *ch.*
Brewland yrof in capones -	xii
Miltown of Culmalochy in pultrie	i
Over Culmalochy in pultrie -	i
Milne of Cattal in beir and meill -	i *ch.* ii *bolls*
Capones - -	xxiiii
Littill Scattall in pultrie	i
Rowie in pultrie	i
Kinenellan, with the Milness and Coull in money -	xix *lib.* iii *d.*
Wester Drynie in money	xxiii *sh.*
Pultrie -	ii
Ardwall in money	iii *lib.* 9*sh.* 4*d.*
Aittis -	vi *bolls*
Beir and meill -	xii *bolls*
Mairtis -	ii
Mutton -	ii
Pultrie -	vi
The milne yrof, callit Tumpave milne, in beir and meill	i *ch.* ii *bolls*
The brewlands of Kinnettis in money	xvi *sh.*
Kinhard in money	iiii *lib.*
Beir and meill	i *ch.* viii *bolls*

Aittis

Aittis -	xii *bolls*
Mairtis -	iiii
Mutton -	iiii
Poultrie -	ix
Eister Archilly in money	iii *lib.*
Wester Archilly in money	iii *lib.*
Pultrie -	iiii
The twa brewlands in money	x *l.* viii *sh*
Park in money -	iii *lib.*
Pultrie -	i
Voladaill in money	vi *sh.*
Pultrie -	vi
Meikill Scattall in money	v *lib.* 4*sh.*
Mairtis -	iii
Pultrie -	i
Urra in money	iiii *lib*
Pultrie -	iiii
Killquhillardrum in money	vii *lib.* xii *sh.*
Pultrie -	i
Ord in money -	x *L.* ix *sh.* 4*d*
Pultrie -	viii
Milne of Killquhillardrum in money	x *l.* viii *sh.*
Beir and meill -	ii *ch.*
Pultrie -	i
Balleblane in money	*L.* *sh.*
Pultrie -	i
Balnagowne in money	iii *lib.*
Pultrie -	ii
Balnaknock in money	iii
Pultrie -	iiii
Tarradaill, with the brewland, in money -	vi *lib.* xvi *sh.*
Pultrie -	i

Milne of Tarradaill in money, with the alehous -	xxxiii *sh.* iiii *d.*
The Ferrie of Scattell in money	xxiiii *sh.*
Logyreich in money	iiii *lib.*
Pultrie -	iiii
Brewlands yrof in money	x *l.* viii *sh.*
Eister Kessock in money	iii *lib.* x *sh.*
Mutton -	ii
Capones -	xii
Pultrie -	x
Ferrie of Kessock in money	vii *lib.* iiii *sh.*
Steill of Kessock in money	xvi *sh.*
Brewland yrof -	xvi *sh.*
Eister Pollo -	iiii *lib.* iiii *sh.*
Auchnaclevoch in money	iiii *lib.* viii *sh.*
Pultrie -	i
Marechmoir in money	x *lib.*
Sargasoun in money	x *lib.* v *sh.*
Beir -	viii *bolls* ii *f.*
Mutton -	i
Mairtis -	i
Poultrie -	viii
Newtoun in money -	xviii *lib.*
Beir and meill -	ii *ch.* ii *bolls*
Mairtis -	ii
Mutton -	ii
Poultrie -	i
Brewland and Suddy croft yrof in money -	xxxviii *sh.* viii *d.*
Hilltoun in money	ix *lib.* xiii *sh.* vii *d.*
Beir -	i *ch.* i *boll*
Mairtis	i
Mutton -	i

Poultrie

Poultrie -	viii
Milne of Culbok in beir and meill	xv *bolls* iii *f.* iii *p.*
Drumquhiddin in money	vii *lib.* xii *sh.* 4*d.*
Beir -	ii *ch.* vi *bolls* i *f.*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* viii
Wester half Daok in money	v *lib.* xvi *sh.* iiii *d.*
Beir -	x *bolls* ii *f.* ii *p.*
Aittis -	iiii *bolls*
Mairtis -	iii *half-mart*
Mutton -	iii *half-mutton*
Poultrie -	xxvii
Eister half Daoks in money	iii *lib.* iii *sh.* xi *d.*
Beir -	v *bolls* i *f.* i *p.*
Aittis -	i *boll*
Mairtis -	i *quarter*
Mutton -	i
Pultrie -	xiii
Brewlands yrof in money	xxx *sh.*
Killane in money	iii *lib.* x *sh.*
Pultrie -	i
Bemethfeild in money	vii *lib.* xviii *sh.*
Pultrie -	i
Milne of Petfins in money	vii iiii *sh.*
Pultrie -	i
Drynie in money	vi *lib.* xiiii *sh.* 5*d.*
Beir -	ii *ch.* vi *bolls* i *p.*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* vii

Brewland

Brewland yrof in money	xviii *sh.*
Milne of Pittonochy in beir	ii *ch.* ii *bolls*
Capones -	xxiiii
Pultrie -	i
Pitfins, with the milne and brewland in money -	iii *lib.* ii *sh.* i *d.*
Sir William Keith, his augmentation of his feu ferm in money	xx *lib.*
Drumdarswood in money	x *lib.* xvi *sh.*
Beir -	ii *ch.* viii *b.* ii *f.* ii *p. half-peck*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* vii
Miltoun of Meikill Methat, with the brewlands yrof, in money	xiii *sh.* iiii *d.*
Beir and meill	vi. *ch.* iii *bolls*
Tulloch Ballafies, milne and brewland yrof, in money -	xviii *lib.* iiii *sh.*
Pultrie -	ii
Maymor, Mydfairbairne, Auchnasaull and Ballebraid, money	xxx *lib.* xvii *sh.* 4 *d.*
Beir and Meill -	i *ch.* ii *bolls*
Aittis -	ix *bolls*
Mairtis -	iii
Mutton -	iii
Pultrie -	xxiii
Culcoure, Drumlamairg, Muren, Milne of Newton of Reidcastell in beir	ii *ch.* ii *bolls*
Mairtis -	ii
Mutton -	ii
Branmoir in money	viii *lib.*

Forrest

Forrest of Ramoch in beir and meill	viii *bolls*
Mairtis -	iii
Eister Tarbart in money	xii *lib*
Minren in beir -	ii *ch.* x *b.* ii *p.*
Mairtis -	ii
Mutton -	ii
Pultrie -	*l.* xxxxvi
Milne of Reidcastell in money	xxvi *sh.* viii *d.*
Augmentation of John Stewart's feu ferme -	xii *lib.* xvii *sh.* 8*d.*
Castelltown in bier	i *ch.* v *b.* i *p.*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* ix
Croft yrof in beir -	i *boll* i *peck*
Balmaduchtie in bier -	i *ch.* v *b.* i *p.*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* v
Suddy in beir -	i *ch.* v *b.* i *p.*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* vii
Milne of Suddy in beir	i *ch.* iii *b.* ii *p.*
Capones -	xviii
Pultrie -	ii
Auchtercloy in beir	ii *ch.* ii *b.*
Aittis -	viii *b.*
Mairtis -	ii
Mutton -	ii
Pultrie -	(35) vxx

Daccharner

Daccharne, Dalpollo, Kinkell, Clarschot, Pitilarndy, Culboks, with the brewland, in mairtis	ii *marts half-mart*
Mutton -	ii *mutton-half*
Pultrie -	*l.* xxxxvi
Pittomochrae in beir	i *ch.* v *b.* i *peck*
Aittis -	iiii *bolls*
Mairtis -	i
Mutton -	i
Pultrie -	*l.* v
Tollie in dry multure	vi *bolls*
Wester Cassoks in capones	x *l.* viii
Pultrie -	x
Mutton -	iiii
Lord Dingwall's lands in pultrie	x *l.* iii.

Summa of the haill beir and meill befoir written	*l.* xxxxiiii, xi *b.* iii *p. half*
Summa of the haill aittis	x *ch.*
Summa of the haill mairtis	*l.* x *marts, quarter-mart*
Summa of the haill mutton	*l.* xix, *mutton-quarter*

Qrof there is viii mutton.

Dingwallis landis.

Summa of the haill capones	i *hundred* xlii
Summa haill pultrie	viii *hundred* li
Summa of the haill monie	iii *hundred* xxiii *lib.* v *sh.* i *d.*

Rental

Rental of the Feu-Duties payable out of the Earldom of Ross, Lordship of Ardmenach, and Barony of Delny.

Names of Proprietors.	Bear.				Oatmeal.				Oats.				Scotch Money.		
	B.	F.	P.	L.	B.	F.	P.	L.	B.	F.	P.	L.	£.	s.	d.
Edward Hay M'Kenzie of Cromarty - - -	112	2	.	.	112	2	.	.	6	.	.	.	431	9	.
Hugh Rose of Glastulich and Calrossie - - -	96	.	.	.	96	.	.	.	.	.	.	.	2	18	8
Sir Roderick Mackenzie of Scatwell - - - -	66	2	2	.	66	2	1	2	17	.	.	.	250	2	2
Charles Mackenzie of Kilcoy	82	3	.	.	44	2	.	.	4	.	.	.	176	6	4
Henry Davidson of Tulloch -	48	.	.	.	48	.	.	.	.	.	.	.	32	6	9
Duncan Munro of Culcairn -	36	.	.	.	36	.	.	.	36	.	.	.	17	17	8
Charles Munro of Allan -	48	.	.	.	48	.	.	.	.	.	.	.	7	2	8
John Cockburn Ross of Shandwick - - - -	48	.	.	.	48	.	.	.	.	.	.	.	1	11	.
James Grant of Redcastle -	29	3	.	.	29	3	.	.	.	.	.	.	102	1	8
R. B. Æ. M'Leod of Cadboll	27	.	.	.	27	.	.	.	3	.	.	.	22	15	8
Lord Seaforth - -	18	.	.	.	18	.	.	.	18	.	.	.	97	.	.
Sir Hugh Munro of Fowlis -	19	2	.	.	19	2	.	.	10	2	.	.	65	4	8
Murdoch Mackenzie of Ardross	18	.	.	.	18	.	.	.	12	.	.	.	84	17	8
——— Fraser of Inchcoulter	41	2	.	.	1	2	.	.	1	2	.	.	18	4	8
David Urquhart of Brælangwell	19	.	2	.	19	.	2	.	4	.	.	.	24	16	8
Charles Graham of Drynie -	19	.	2	.	19	.	2	.	4	.	.	.	23	9	8
——— of Milncraig	21	.	.	.	21	.	.	.	.	.	.	.	51	.	9
Sir George Mackenzie of Coul	12	.	.	.	12	.	.	.	12	.	.	.	83	5	4
Sir Alex. Munro of Novar -	12	.	.	.	12	.	.	.	12	.	.	.	50	8	.
Hugh Munro of Teaninich -	16	.	.	.	16	.	.	.	1	.	.	.	42	13	4
Alex. Mackenzie of Ord -	16	.	.	.	16	.	.	.	.	.	.	.	5	10	8
J. R. Mackenzie of Suddie	12	.	3	.	12	.	3	.	4	.	.	.	34	14	4
John Mackenzie of Kincraig	9	.	.	.	9	.	.	.	9	.	.	.	24	16	.
Mrs Mackenzie of Sentoon -	6	.	.	.	6	.	.	.	3	.	.	.	13	12	10
Colin Matheson of Bennetsfield	5	1	1	.	5	1	1	.	2	.	.	.	23	.	8
John Mackenzie of Strathgarve	.	.	.	.	.	.	.	.	.	.	.	.	35	9	8
Alex. Mackenzie of Hilton -	.	.	.	.	.	.	.	.	.	.	.	.	17	9	.
Sir Hector Mackenzie of Gareloch	.	.	.	.	.	.	.	.	.	.	.	.	15	4	.
John Gillanders of Highfield	.	.	.	.	.	.	.	.	.	.	.	.	11	4	.
William Mackenzie of Pitlundie	.	.	.	.	.	.	.	.	.	.	.	.	10	.	.
——— M'Leay of Newmore	.	.	.	.	.	.	.	.	.	.	.	.	5	16	.
Sir Charles Ross of Balnagown	.	.	.	.	.	.	.	.	.	.	.	.	5	2	.
William Robertson of Kindeace	.	.	.	.	.	.	.	.	.	.	.	.	4	5	4
Total - -	839	1	2	.	761	.	1	2	158	.	.	.	1790	1	8

Rental

Rental of the Bishoprick of Ross.

	Money rent Scots.			*Victual Rent.*
	£.	*s.*	*d.*	*B. F. P. L.*
Duncan Munro of Culcairn -	35	3	6	
Sir Hugh Munro of Fowlis -	64	8	8	
George Munro of Culrean -	12	1	10	
John Urquhart of Kinbeacy -	35	10	8	& 24 0 0 0
Munro Ross of Pitcalny -	45	7	4	& 7 0 0 0
Alexander Ross of Cromarty	92	5	10	& 40 3 1 2½
Mr Fraser of Inchcoulter	36	10	5	
Sir Alexander Munro of Novar	59	1	7	
Charles Graham of Drynie -	40	3	0	
John Gillanders of Highfield	10	1	11	
Hugh Ross of Aldie -	1	8	0	
John M'Kay of Little Tarrel	9	5	6	
James Fraser of Pitculzian -	28	15	7	& 26 0 0 0
Mrs Mackenzie, Onidoxgate,	4	14	0	& 2 0 1 1½
Mr M'Kenzie of Pitlundy	31	14	10	& 4 0 0 0
Sir Roderick M'Kenzie of Scatwell	100	6	6	
John M'Kenzie of Alangrange	2	0	2	
R. B. Æ. M'Leod of Cadboll	51	7	4½	
Captain M'Kenzie of Newhall	121	11	8	& 24 0 0 0
Hugh Munro of Teaninich -	6	8	4	
Colin Mathieson of Benaygefield	20	6	8	
Walter Ross of Nigg -	36	6	1	& 18 3 2 3½
Sir John Leslie of Findrassie	82	18	8	
Sir George M'Kenzie of Coul	17	2	6	
Charles M'Kenzie of Kilcoy -	9	14	5	
Murdoch M'Kenzie of Ardross	1	3	2	
H. Davidson of Tulloch -	15	7	4	
Roderick M'Kenzie of Flowerburn	114	4	0	
James Grant of Redcastle -	52	11	11	
Andrew Miller of Kincurdy -	18	0	0	& 4 0 0 0
Lord Cawdor - -	67	0	0	
George M'Kenzie of Avoch -	52	14	0	
Alexander Anderson of Udoll	22	12	0	& 8 0 0 0
Donald M'Leod of Geanies -	58	15	3	& 8 0 0 0
Mr M'Kenzie of Cromarty -	0	0	0	8 0 0 0
Sir Charles Ross of Balnagown	238	13	10¼	& 48 0 0 0
Mr M'Kenzie of Bayfield -	5	6	0	& 24 0 0 0
J. C. Ross of Shandwick -	8	8	10	& 44 3 2 0
John Anderson of Mildery -	80	1	4	
Mrs Ross of Milncraig -	1	15	7	
Archibald Fraser of Lovat -	222	4	8	
Donald Urquhart of Brealangwall	23	5	0	

ABSTRACT

ABSTRACT of the Valued and Real Rent of Land in the different Parishes of the County of Ross.

FIRST DISTRICT.				Valued Rent Scotch. £.	s.	d.	Real Rent Sterling. £.	s.	d.
Alness Parish, - - - -				2891	0	0	2738	10	10
Edderton ditto, - - -				1528	10	0	1741	15	6
Fearn ditto, in Ross,	L.3379	3	11						
Ditto, - in Cromarty,	684	10	0						
				4063	13	11	3401	10	6
Fodderty ditto, in Ross,	L.1679	13	4						
Ditto, - - in Cromarty,	1863	15	0						
				3543	8	4	3070	11	1
Kincardine ditto, in Ross,	L.1650	15	0						
Ditto, - - in Cromarty,	157	10	0						
				1808	5	0	2518	7	5
Kilmuir Easter do. in Ross,	L.1754	0	0						
Ditto, - - in Cromarty,	937	0	0						
				2691	0	0	1829	19	1
Kiltearn ditto, - - - -				3149	9	6	3068	8	5
Logie ditto, in Ross,	L.1259	15	0						
Ditto, - in Cromarty,	246	0	0						
				1505	15	0	1867	16	0
Lochbroom do. in Ross,	L.2923	13	4						
Ditto, - in Cromarty,	1443	13	0						
				4367	6	4	2246	7	11
Nigg ditto, - - - -				4205	11	0	2814	3	11
Rosskeen ditto, - - -				3711	15	0	3802	12	5
Tarbat ditto, in Ross,	L.2388	17	6						
Ditto, - in Cromarty,	2138	3	4						
				4527	0	10	3016	18	8
Tain ditto, in Ross,	L.1659	10	0						
Ditto, - in Cromarty,	642	0	0						
				2301	10	0	2644	6	7
				40294	4	11	34761	8	4

ABSTRACT

ABSTRACT of the Valued and Real Rent of Land in the different Parishes of the County of Ross.

SECOND DISTRICT.		Valued Rent Scotch. L.	s.	d.	Real Rent Sterling. L.	s.	d.
Applecross Parish, - - -		1927	0	0	2967	2	10
Avoch ditto, - - - -		2531	6	4	3478	10	0
Contin ditto, in Ross,	L.3779 6 8						
Ditto, - in Cromarty,	75 0 0						
		3854	6	8	1951	7	0
Dingwall ditto, - - -		799	19	0	2377	5	0
Gairloch ditto, - - - -		3400	0	0	1273	6	8
Killearnan ditto, - - -		1873	12	7	2088	10	6
Kilmuir Wester (Knockbain), ditto,		2925	12	7	4357	10	10
Lochalsh ditto, - - -		2900	0	0	2028	4	8
Lochcarron ditto, - - -		2104	10	0	1043	0	0
Rosemarkie, do. in Ross,	L.3725 3 8						
Ditto, - in Cromarty, -	29 0 0						
		3754	3	6	1981	2	1
Urquhart ditto, in Ross,	L.1811 5 0						
Ditto, - - in Nairn,	1200 0 0						
		3011	5	0	3156	4	0
Urray ditto, - - - -		2453	18	0	4112	3	10
Resolis ditto, in Ross,	L.448 6 10						
Ditto, - in Cromarty,	673 0 0						
		1121	6	10	2493	9	10
Cromarty ditto, - - -		2576	9	$8\frac{5}{12}$	2331	16	5
Burgh of Dingwall, - - -					314	2	0
Burgh of Fortrose, - - -					103	17	6
		36,233	10	$4\frac{5}{12}$	36,107	12	2

THIRD DISTRICT.	Valued Rent Scotch. L.	s.	d.	Real Rent Sterling. L.	s.	d.
Glenshiel Parish, - - -	1904	2	5	1549	10	0
Kintail ditto, - - - -	2027	17	7	1527	0	0
LEWIS—Lochs, Barvas, Uig, and Stornoway Parishes, - - -	5250	0	0	4697	7	8
	9182	0	0	7773	17	8
First District, - - -	40,294	4	11	34,761	8	4
Second District, - -	36,233	10	$4\frac{8}{12}$	36,107	12	2
Third District, - -	9,182	0	0	7,773	17	8
	85,709	15	$3\frac{8}{12}$	78,642	18	2

Of the above amount of real rent in the three Districts, there is held by proprietors whose rents are

	Above L.2000 per Annum.			From L.1000 to L.2000 per Ann.			Below L.1000 per Annum.		
	L.	*s.*	*d.*	*L.*	*s.*	*d.*	*L.*	*s.*	*d.*
First District, -	11,311	12	4	10,201	2	0	13,248	14	0
Second District,	16,634	14	10	7,898	9	6	11,574	7	10
Third District,	7,379	7	8				394	10	0
	35,325	14	10	18,099	11	6	25,217	11	10

CHAP.

CHAP. III.

BUILDINGS.

SECT. 1.—HOUSES OF PROPRIETORS.

Castle Brahan, the residence of Lord Seaforth, is placed nearly in the centre of a beautiful bank, which extends on the north side of the river Conan, from Contin to Dingwall. It is surrounded by a number of antient trees, which, when we consider the period at which they were planted, are extremely well disposed, if we except a long avenue of sycamores, which reaches from behind the castle to the top of the bank.

The great hall makes up, in some degree, for the defects which we find in the internal arrangement of this building, and which are common to all old castles. The noble owner has formed, and partly executed, a plan for the improvement of his mansion.

It is now well understood, that that superiority at which a clannish man expects to arrive, must be sought for, not in a pompous display of riches, power, or influence, or of personal vanity, but in a virtuous and a patriotic character. It has been said, that neither that superiority which is so desirable, nor that respect for our ancestors, which is their due, can justify

a man for divesting himself of comfort, and injuring the beauty of a country, by propping up, and patching an aukward and ugly mass of building, such as Castle Brahan. It has also been frequently observed, that were the numerous progenitors of the different families which bear the name of Mackenzie, to rise from their graves, and behold the improvements which have been made in society, and the taste which has prevailed in works of art since civilization reached the Highlands, they would not be displeased to see an elegant modern mansion inhabited by their chief, although, perhaps, their pride might be a little flattered by the exertions which have been made to keep up the antient castle. All this may be true; but the observations can only come from those who have received no inheritance from their forefathers, and who can have no idea of the strength of local attachment. The affection which every man feels for his country is strong; but the consideration of an estate and mansion having been handed down by a long line of ancestors, adds a force to the affection one feels for his native spot, which, to be understood, must be felt.

Tulloch Castle, the seat of Henry Davidson, Esq. is an old building, to which some additions and improvements have been very judiciously made. There is no external display of elegance, but the inside of the building is well laid out. This castle is beautifully situated at the head of the Cromarty Frith, near Dingwall. It is rather too much shut up by hedgerows; but, at the time when the improvements of the place were begun, it was the fashion to lay out the ground about gentlemens' seats in regular straight-lined

lined divisions, without leaving any space for a lawn or park.

Mountgerald, the residence of Colin Mackenzie, Esq. is a modern and very neat building, and every way suited to the estate on which it has been erected. This last remark is occasioned by my having frequently seen houses built by men of fortnne, upon estates, the fee simple of which might be purchased by the cost of the buildings. Mountgerald is very prettily situated on the north bank of the Frith, a few miles from Dingwall.

Fowlis Castle, the residence of Sir Hugh Monro, Bart. has a very elegant appearance from the road, but the accomodations are by no means such as might be expected from the outward appearance of the building.

Balcony.—This house, with the estate of Inchcoulter; have been lately purchased by Mr Fraser, who has made additions to the old building. The situation of the house is good, and commands a most beautiful view of the surrounding country.

Novar House, the seat of Sir Alexander Munro, is well situated, and commands a fine view of the frith and town of Cromarty. It is a patched house, the additions having completed a square, in which there is a great deal of accommodation. Although few admire the yellow colour which is laid upon the walls, or the contrast excited by a great many white chimney tops, yet the reception which strangers meet with when the family is at home, soon effaces the recollection of the bad taste of the builder, the late Sir Hector Munro, whose noble exertions in improving and beautifying the

the face of the country, will ever be remembered with admiration.

Invergordon Castle.—This building was by some unlucky accident, which has never been explained, entirely burnt in the year 1801. The late proprietor had made considerable additions to it, and rendered it a comfortable and elegant residence. Mr Macleod of Cadboll, the present proprietor, frequently comes to reside in the country, where he is highly respected, and has fitted up one of the wings for his accommodation. He has not yet determined on any plan for renewing the seat of Invergordon, the situation of which commands every beauty and convenience desirable in a country residence.

Balnagown Castle, the residence of Sir Charles Ross, Bart. is old, and laid out according to the taste, or rather the necessities of former times. An addition was made by the late proprietor, containing large public rooms, which have lately been elegantly and comfortably furnished.

Tarbat House, or New Tarbat, as it is sometimes called, the seat of the Cromarty Family, is a modern building, and the only one in this part of Ross-shire constructed of hewn free-stone. It is quite plain on the outside. Within there are some handsome rooms. A great deal of space has been taken up by the architect having indulged himself in displaying wide landing-places, and a spacious staircase. These are extremely pleasant during summer, but are hardly suited to our long and dreary winters. The rooms are elegantly proportioned, and there is a fine view of Cromarty from the windows of the principal ones.

Shandwick

Shandwick House, the seat of John Cockburn Ross, Esq. has a very curious, but by no means unpleasant appearance. What was intended for offices was converted by the present proprietor into a very comfortable temporary dwelling. He afterwards extended the buildings, and, having completed three sides of a large square, he added a very neat front, which some may think spoiled by being crowned with embrasures, which belong properly to castellated buildings.

Bayfield House, the seat of William Mackenzie, Esq. is a neat and very comfortable modern house.

Geanies House, the residence of Donald Macleod, Esq. has been built at different times without any fixed plan; but though the external appearance of the building shews this, there is a great deal of elegant and comfortable accommodation within. The house is built near the edge of a precipice, which overhangs the Murray Frith, of which it commands a picturesque view.

Conanside, or Conan House, as it has lately been called, the seat of Sir Hector Mackenzie, Bart. is one of the best patched houses I ever saw. He has continued to make the additions contribute to the neatness and regularity of the whole building, and to contain very elegant public rooms, besides other accommodations.

Belmaduthy is a very neat house, and certainly more elegant than the seat of *Tore*, which the proprietor, Charles Mackenzie, Esq. occupies. From not being inhabited, the house has contracted so much dampness that it must soon be spoiled.

Rosehaugh, the residence of Sir Roderick Mackenzie, Bart. is a handsome building, constructed of hewn freestone.

freestone. I never had the honour of seeing the inside of it, but I have been informed that it is suitable to the external neatness of the building.

Red Castle, the seat of Colonel Grant, is a compact building in the old style. Its situation is pleasant, being on the shore of the Beauly Frith: but is very much spoiled by mills, and a village having been built at the very door.

Newhall, in Cromartyshire, the seat of Donald Mackenzie, Esq. is a very handsome building, just finished. It is very well laid out, and though none of the rooms are large, they are comfortable, and may be easily warmed during the coldest weather, an advantage which those who are more desirous of displaying grandeur, than of possessing comfort, must forego.

Braelangwell is a small, but very comfortable modern house. The exertions of the proprietor, David Urquhart, Esq. in improving his property, are well known, and have long been admired.

Cromarty House, the seat of Alexander Ross, Esq. is by far the most elegant, and the best laid out building of any in this part of the kingdom; I may add, though the pleasure grounds have been much neglected, that the situation is also the most beautiful. There is one fault, however, which it has in common with many other places, and that is the squareness of the inclosures. The straight hedge-rows spoil the appearance of the place very much. I do not know any place so capable of ornament, or that, from the gifts of nature, more powerfully invites the exertion of a person of taste in landscape-gardening. But I would not be pleased to see it under the hands of any of the ephemeral gardeners, with whose catch-penny books

the press has of late years been groaning. But whenever the embarrassments of the estate are removed, I hope to see the sober efforts of good taste freely exerted upon it. There are no other houses in these counties which are deserving of any particular notice on account of their size or elegance. But there are many mansions, where uncontrouled hospitality reigns, and in which abundance of comfort, though not much elegance, is to be found.

SECT. 2.—FARM HOUSES AND OFFICES.

The Highland tenantry are universally ill accommodated. They live in the midst of smoke and filth; that is their choice. Wherever farms have been laid out on a proper scale, and are occupied by substantial and well educated men, we find the farm-houses and offices handsome and commodious. It is to be regretted that the old practice of forcing the tenant to build his house and offices, on condition that he shall be repaid at the end of his lease, still obtains. In a country where capital is so much wanted for the improvement of the soil, it seems almost absurd to sink it in stone and mortar, as soon as it presents itself, instead of spreading it upon the land. Every proprietor who wishes to see his estate rapidly improved, will erect suitable buildings at his own expence, before he invites a good tenant to settle upon it. The interest of his money will be always cheerfully paid, and if the landlord agrees that repairs shall be made at the mutual expence

expence of himself and his tenant, the latter will thrive, and the former will never have to demand his rent twice. The present race of Highland tenants will yet find themselves much happier, and more comfortable, in the capacity of servants to substantial tenants, than in their present situation. The Board having already obtained sufficient information respecting the situation of the Highland tenantry, it is needless for me to enlarge upon it here.

SECT. 3.—COTTAGES.

The dwellings of cottagers are not worse than those of the native farmers. The same roof covers men, women, children, cattle, dogs, pigs, poultry, &c. It must afford great pleasure to every lover of his country, to observe the neat cottages that are erecting in several parts of the country; but it will be long ere the people will learn the comforts of cleanliness, and the use of chimneys. In many places where these have been constructed, the people do not use them, but prefer breaking a hole in the roof of the house, and lighting their fire on the floor. Smoke they say keeps them warm.

SECT.

SECT. 4.—BRIDGES.

The only bridge of consequence in this country is, that which has been built across the river Conan, consisting of five arches. It is a handsome structure, and is executed in a style which reflects much credit on the builder, Mr Fletcher.

There is another about to be built across the river Orrin.

The bridges of Altgrad and Balnagown are very neat. They consist each of one arch. The roads in general are rendered very commodious, by means of arches thrown over every small stream.

SECT. 5.—PRICES OF BUILDING, MATERIALS, AND ARTISANS LABOUR.

Mason Work.

Ruble work reduced to two feet thick per rood, -	8l. 10s. to	L. 9	10	0
Workmanship of ditto,	2l. 10s. to	2	5	0
Polished hewn work per foot,	1s. 6d. to	0	2	0
Workmanship of ditto, -		0	1	0
Drov'd hewn work, -	8d. to	0	0	10
Workmanship of ditto,	4d. to	0	0	6
Workmanship of vents,	8d. to	0	0	9
Workmanship of harling per rood,		0	9	0
Quarrying, -	2l. to	3	0	0
Carriage for a mile distance,	1l. 15s. to	2	10	0

Where

Where the building is more than 20 feet high, the price is charged in proportion for the extra expence in scaffolds and carrying up the materials.

Carpenters' Work.

Roofing and sarking per yard,	L. 0	8	0
Workmanship of ditto, -	0	1	4
Batton flooring, and joists, -	0	10	6
Workmanship of ditto, -	0	3	0
Gribbed flooring and joists the breadth of the deal, - -	0	8	6
Workmanship of ditto, -	0	1	6
Plain deal work in doors, &c.	0	5	0
Workmanship of ditto, -	0	1	8
Lath and standards *single*, -	0	2	0
Workmanship of ditto, -	0	0	10
Deafening boards, and fillets -	0	2	6
Workmanship of ditto, -	0	0	6
Astragal windows per foot, -	0	1	8
Workmanship of ditto, -	0	0	10
Bound work in doors, &c. -	0	1	0
Workmanship of ditto, -	0	0	3½
Double facia architraves, -	0	0	8
Workmanship of ditto, -	0	0	5
Single facia architraves, -	0	0	7
Workmanship of ditto, -	0	0	4
Base and surbase, -	0	0	8
Workmanship of ditto, -	0	0	5
Grounds - -	0	0	3
Workmanship of ditto, -	0	0	1½
Wash boards, - -	0	0	4
Workmanship of ditto, -	0	0	2
Door posts, -	0	0	7

Workmanship

Workmanship of door posts,	L.	0	0	3

Eleven years ago, wood was sold from 7d. to 1s. per solid foot; men's wages from 6s. to 9s. per week. The price this year from 1s. 6d. to 2s. 6d. per foot; men's wages from 10s. to 18s. per week. No foreign timber meant in the foregoing prices.

Glazier Work.

1st Crown glass, finished with three coat oil paint on the outside per foot,		0	2	4
2d Crown ditto, ditto, -		0	2	2
3d Crown ditto, ditto, -		0	1	10

The panes not exceeding 20 inches in length.

Slate work per rood,	8l. 10. to	9	0	0
Workmanship of ditto,	1l. 1s. to	1	5	0

Painter Work.

Best dead white per yard, -	0	1	4
Ditto French gray and pea-green, -	0	1	6
Mahogany and wainscot colour, -	0	1	8
Plain oil white, chocolate, and lead colour,	0	0	10
Green in distemper, - -	0	0	6
Blue in ditto, - -	0	0	4
Buff in size, - -	0	0	3
White wash, - -	0	0	2

Plaster Work.

Best hard finishing, -	0	1	4
Workmanship of ditto, -	0	0	7
3 coat plaster, - -	0	1	
Workmanship of ditto, -	0	0	6

2 coat plaster, - -	L. 0	1	0
Workmanship of ditto, - -	0	0	4½
Plain mouldings per foot, -	6d. to 0	1	2
Workmanship of ditto, -	3d. to 0	0	6
Enriched mouldings, -	6d. to 0	1	6
Workmanship of ditto - -	4d. to 0	0	9

Sawers work from 2s. 9d. to 3s. 6d. per 100 feet superficial.

Work of all kinds are measured here in the same manner as in Edinburgh, excepting a few trifling variations, not material for either the employer or workmen.

Cart-wright Work.

A full mounted plough, -	L. 3	6	0
Ditto not mounted, - -	1	5	0
Yoke and two swingle trees -	0	12	0
Ditto not mounted, - -	0	5	6
A cart full mounted, with iron axle,	12	0	0
A pair of wheels, mounted with 16 stone iron, - -	5	0	0
Iron axle set in wood, -	1	16	0
Wood axle mounted, -	0	7	0
Cart not mounted, -	2	5	0
Wheels not mounted, -	2	10	0
Angled harrows mounted per pair,	2	10	0
Ditto not mounted, -	0	17	0
Wheel-barrow mounted complete,	1	1	0
Ditto not mounted, -	0	17	0
Another kind, inferior mounted, -	0	16	0
Ditto not mounted, -	0	11	6

Single

Single drill plough, with a metal mould-board, - -	L. 2	5	0
Ditto not mounted, -	0	19	0
Double mould board drill-plough, with three coulters and sock, -	3	1	0
Ditto not mounted, - -	1	5	0
Drill-plough, with 2 beams, 2 wings, 2 mould-boards, a coulter in each wing, with 3 socks, - -	4	5	0
Ditto not mounted, -			
Plough for making two furrows at a time	5	5	0
Ditto not mounted, -	1	16	0
Turnip machine for sowing two drills at a time, - -	5	0	0
Common ditto for one drill, -	1	5	0
Cart hems mounted -	0	7	0
Ditto not mounted, -	0	6	0
Tress hems mounted, -	0	5	6
Ditto not mounted, -	0	2	6
Sawing hard wood per superficial 100 feet,	0	6	0

Smith Work.

Cart-wheels shod per stone of iron,	0	4	3
Work of ditto per stone, -	0	1	0
Horse-shoes per set, - 3s. to	0	4	0
Cart mounting per lb. -	0	0	8
Work of ditto, ditto, -	0	0	4
Harrows mounting ditto, -	0	0	7
Work of ditto, ditto, -	0	0	3
All kinds of screwed work ditto	0	0	8
Work of ditto, ditto, -	0	0	4
Gate hinges ditto, - 7d. to	0	0	10

Work

Work of gate hinges per lb.	3½d. to	0	0	4½
Grapes and mattocks ditto,	-	0	0	7
Work of ditto, ditto,	-	0	0	3
Swedish iron per stone,	-	0	4	6
British ditto, ditto,	- -	0	3	0
Ditto square ditto,	- -	0	3	4
Ditto bells or rods ditto,	-	0	4	0

CHAP.

CHAP. IV.

OCCUPATION.

SECT. 1.—SIZE OF FARMS.

The size of farms is various. The native farmers occupy from seven to thirty acres of arable land, and, in some instances, have small grazings, either immediately contiguous to their arable fields, or at a considerable distance; but, for the most part, the horses and cattle employed in the labour of the farms are sent, as soon as seed-time is over, to graze during summer on some hill-pasture, for which five or six shillings per head are paid. The occupiers of the hill pasture generally take a greater number of horses and cattle for grazing than the surface they allot for this purpose can well support. The consequence is, that the animals belonging to the native farmers are always poor looking, and stinted in growth. The practice of keeping an overstock renders it a very difficult matter for the people to support their cattle during winter and the labouring season. They have nothing but the straw of the preceding crop, and what can be picked up on the sides of the highways, or stolen

 from

from some more provident neighbour. I have frequently seen on a Highland farm two working animals for each acre. I recollect one instance in particular, which I shall here state, in illustration of the mode in which the land is generally occupied by our native farmers. Thirty acres were occupied by two men who had large families. They possessed the land, not in runrig, but in common. Both exerted themselves in cultivating the fields, and they agreed respecting a particular, but very irregular rotation of crops, and divided the produce equally between them. They paid about fifteen shillings per acre. On this farm were kept ten horses and six head of cattle, besides young beasts. The land was remarkably full of weeds of all sorts. After the cattle had done ploughing, they were turned upon the field on which they had been working, in order that they might feed upon the weeds which had been turned up. I never observed that they got any other sort of food during the day, except a small quantity of oats just before they went to work. At night the horses and cattle were turned to some patches of waste ground to pick up a miserable pittance of grass. During the summer months, the animals were sent to graze on some bare hills; the horses being brought down when the peats were ready for storing, and sent back as soon as the fuel was got home. When the corn was ready to be taken from the fields, the whole stock was brought home, and allowed to range on the stubbles. No grass-seeds were ever sown; the whole farm was under wretched crops of oats and barley. Three or four, and not unfrequently five crops of oats followed each other in succession; and when barley was sown with manure, three or four crops

crops of oats succeeded. No greater quantity of potatoes was planted, but what was barely sufficient to answer the home demand. During winter the horses and cattle were fed on straw, but sparingly. The straw was always very short; and, from the system of management just described, it will readily be believed, that the quantity was not very great, and hardly enough to keep ten black cattle and six horses alive during seven months of the year.

There is another mode of occupation which, as it meets with the approbation of some of the most enlightened proprietors in the north, deserves to be noticed particularly; and as it has been adopted with the view of preserving the population of the Highlands, it is entitled to a fair discussion. I allude to the system of crofting. The improvement of waste land is a favourite object with every proprietor, and the desire of having it accomplished cheaply has occasioned a considerable competition for crofters, who have been removed from other places. These poor people, not having the means of transporting themselves to America, are glad to obtain a possession of any sort, on which they may build a hut to shelter themselves from the inclemency of the weather. Many have taken advantage of their necessities, and tied them down to perform various services, to work at fixed prices when called upon, and to turn up a certain space of waste ground annually. Others, while they fix the price of labour, allow the crofters to feel the inconvenience of having no land on which potatoes, &c. might be raised, and leave them to improve the waste as they feel inclined. Some crofters are established without any other condition being imposed upon

upon them, except that they shall improve a certain space annually. Others have an allowance of money for rendering a certain extent productive, and in some instances we find crofters settled for life unconditionally. On looking around the Highlands, and examining minutely into the situation of the crofters, and the progress they make, we find that they are all extremely poor, and that their improvement of the land, if improvement it can be called, is so very slow as to be hardly perceptible. I know one instance of a crofter who was settled on very good land, and took fifteen years to improve three acres. With very ordinary activity, this man might have become independent. But he preferred smuggling and poaching to honest employment. The families of crofters are universally in rags, and their children are uneducated; industry is unknown to them, and their habitations are filthy in the extreme. I shall take occasion to enter more fully into this subject in another part of the survey, and will content myself with remarking here, that the labour of one man, properly applied, would do more in a given time than the labour of ten applied in any mode of crofting I have ever seen.

Taking a general view of the Highlands, we cannot help contrasting the occupation of land in small patches, with that where some hundred acres are thrown into one farm. It is sufficiently well known, that Britain does not produce grain enough for the consumption of its inhabitants; and it is universally desired, that the productiveness of the soil should be increased. How inconsistent with this desire do the means employed by many well-informed persons to bring waste land into cultivation appear? We have al-

ready more people to support than we have food for; and the effects of but a small deficiency in a crop has been exemplified in a melancholy manner very lately. But yet the policy adopted in the northern parts of the kingdom has been, to increase the number of mouths before food has been provided to satisfy them.

If we take the medium size of farms occupied by the natives to be twenty acres, which is greatly above the truth, there will be five families on every hundred acres. Including servants, each family may be stated as consisting of five persons. On 400 acres, therefore, there will be twenty families, or 100 persons, all occupied in cultivating the land. One substantial farmer may occupy the whole. He will require, we shall say, seven pairs of horses; and if we suppose that the driver of each pair has a family of five persons, and that they are all constantly employed in the business of the farm, they will be sufficient to carry on the work. Thus, exclusive of the farmer's own family, we have thirty-five persons for managing 400 acres. But in case it might happen that a greater number are required, owing, I shall suppose, to some particular style of cultivation, no greater addition than fifteen can possibly be necessary. From this view we may conclude, that one-half of the present number of inhabitants is sufficient for the proper cultivation of the soil.

Another conclusion may perhaps be drawn, that one-half of the present inhabitants might be usefully employed, and enabled to support themselves and their families with comfort, and no small share of respectability. What is to be done with the other half, is a question of far greater difficulty in the solution than

than people in general are aware of. I shall, in another place, consider some of the plans which have been submitted to the public, for preserving our superfluous population.

I now proceed to point out the effects which have followed the occupation of land in large portions. It is proper to begin with the operations of proprietors, of whose public spirit, and intelligence, there are many splendid examples which I might detail. I find it difficult to make a selection, but I have no hesitation in beginning with the first, and perhaps the best example we have seen of ability, industry, and excellent management, in the proceedings of Mr Mackenzie of Allan-Grange.

Mr Mackenzie being universally allowed to be an excellent farmer, and to have exhibited a rare example of what industry and perseverance can effect, I requested of him to afford me the means of doing proper justice to his meritorious exertions. Though the following communication does not enter so minutely as might be wished into the business of his improvements, yet it contains a succinct history of Mr Mackenzie's proceedings.

"So many occupations take up my time, that I find it impossible for me to look back, and collect materials to detail particularly the methods which I followed in carrying on the little improvements I have made since the year 1773, when I succeeded my father in this small property, agreeable to your polite request. The arable and pasture lands which I have occupied, do not exceed 700 Scots acres, which were, except sixty, in the hands of small tenants, who laboured them under the old system; and the greater part remained

mained under the same management till of late years, although I used every means, by example and leases, to encourage the tenants to adopt the more modern and beneficial practice of agriculture. But all was in vain. The people were under the controul of old prejudices and habits. I was therefore under the necessity of removing the old inhabitants by degrees, and taking the labouring oar myself. This was an arduous undertaking, but fortunately the people were provided with farms in the neighbourhood, by others not so ready to encounter the difficulties I undertook to overcome. I had not been accustomed to rural affairs when I entered on the business, and had every thing in the practice and economy to learn. Under such disadvantages, and a still greater, the want of the great conquering engine, cash, you will allow my speculation to have been hazardous, and not to have held out much prospect of success; but when one's inclination is stimulated by interest, or the prospect of improving one's own property, and elated with the idea that public good was, in this case, united to private benefit, all obstacles vanish. Thus urged, I began by draining a marsh of 100 acres, overwhelmed by water, and full of rutts, &c. One principal drain was made through the centre, and the rest were drawn so as to form fields; and thorns were planted to form inclosures, and some ash, elm, and oak trees, were interspersed, which are now well grown and thriving.

"The soil of my property is of various kinds, moss, clay, and haugh mould, which yield very fair crops. There is sometimes a stoppage of the water, owing to a mill-dam and water-course on my neighbour's ground, which greatly impedes the effect of the drain-

age,

age, when not kept clear *. The old arable land is on gently sloping banks, and is in general a light soil. That exposed to the south, on the north side of the flat, is the lightest; on the north slope it is heavier, and is a deep fine black mould. Under good management, the whole is fit for yielding any sort of crop, especially if aided by lime, as is apparent from the few experiments I have made with that most excellent stimulus. The lands now mentioned were matted with weeds, and sadly incumbered by stones, and with mearings or baulks innumerable. These have been trenched fourteen inches deep, cleared, and brought in to complete the adjoining fields. I followed a regular rotation of green crop, oats, barley, or wheat, as the land could carry them, sown down with grass-seeds for one cutting, and surrendered to pasture, to be afterwards broken up, as convenient. The expence incurred from year to year in the drainage was considerable, as a vast number of under drains were wanted; also in diking and blowing stones; particularly on one farm, called Allanclach, the very powder furnished cost L. 100. On the very best fields there were immense blocks of stone dispersed, so that no plough could pass safely without the nicest care. I always endeavoured to procure from Berwickshire, or East Lothian, the best servants I could afford, to assist and direct in carrying on my operations, as grieve or principal ploughman; and those whom I got to the country have since proved useful to others after leaving my service. I have only now to add, that I have

* A case was lately tried in England, the decision of which provided against a miller raising water above its ordinary level, so as to inundate the neighbouring meadows.

have planted with Scotish fir and larch, and where the soil suited, with hard wood; all my moors surrounding my property, and also on different barren patches of my fields. The plantations are thriving, and they now afford considerable shelter as well as ornament.

"Wages are advancing, and are rather higher in this quarter, owing to its vicinity to Inverness, where labourers are always wanted. My husbandry implements were occasionally brought from the south, as patterns, and I employ a cartwright and smith, hired by the year, to supply whatever is wanted. My horses and cattle are mostly reared on the farm, and answer better than any purchased. I keep a small stock of the pure Fife breed of cows for the dairy, which I brought here many years ago; and Highland cattle for sale and feeding, as they go off more readily than those of a large size. I keep but a few scores of sheep for serving my family, and a few for the butcher. They are originally from the small white faced breed of the country, improved in size and wool by means of rams of the new Leicester breed. They are quiet, and feed well, and are folded on grass fields, or on turnips, on land intended for immediate crop.

"To enter particularly into the system of agriculture which I follow would be tedious, and extend my letter too far, and what is already given is sufficient to tire you."

In this my friend Mr Mackenzie is mistaken; for no one could read a detail of his operations without pleasure and instruction. His great merit has consisted in beginning at once on a proper and liberal scale; and persevering till he overcame every obstacle, without regarding the cost. He has been rewarded for his pains. His estate has become more than quadru-

pled

pled in value; and he has acquired the admiration, not only of all the proprietors in the country, but of every practical and intelligent farmer; and it is long since he has been looked up to, as the father of good farming in Ross-shire, I may say in the north. It has given me great pleasure to have been thus enabled to pay a public tribute of respect to Mr Mackenzie, and to express my hope that his exertions will always continue to be properly valued by the public.

The next example of persevering industry and skilful application of agricultural knowledge which I shall select, is, that of Captain Munro of Teaninich. Although in this case the scale of operations be not large, yet it has been sufficient to show, in a remarkable manner, what a regular system of management can effect; the fields about Teaninich being now in capital order, and producing very fine crops.

At an early period of life, while fighting for his King, Captain Munro was deprived of sight, the greatest of all human enjoyments, a musket-ball having destroyed both his eyes. The hopes that had been cherished of the spirit and amiable character of this young officer carrying him with honour to the highest stations of his profession, were thus in a moment blasted. But when we see him keenly occupied in the improvement of his property, taking a part in the public business of the county, and cheerful and happy at all times, we cannot, while we admire his constancy under the most severe of all afflictions, but rejoice for his sake and our own, that his attention has been turned to such useful occupations as those of agriculture. I cannot describe Captain Munro's operations better than in the words of

of a communication he has been so obliging as to make to me.

"When I commenced the improvement of the farm I now possess, three-fifth parts of it consisted of waste land, covered with furze, and so full of stones as to be impervious to the plough. The remaining two-fifths, or arable part, had been severely cropped some years before my entry, and was much exhausted, and full of weeds; and the fields, if they could be called so, were interspersed with patches of waste ground, composed of cairns of stones, and covered with broom, &c. There were no inclosures, and the office-houses were dispersed without any arrangement. In short, every thing was to be done before a regular course of cropping could be adopted. Lines for inclosures were drawn, and dikes were built, and the waste ground within these inclosures was trenched and added to the fields. As the soil may be said to be a good gravelly or sandy loam, well adapted to the turnip system, each field was in its turn cleared, and laid down with turnips. But owing to the scanty supply of manure on an exhausted farm, and the additional quantity required to be put upon the parts improved, the extent of the turnip sowing was not considerable for the first three or four years. And at this present time, owing to the difficulty of improving the waste ground, and employing the farm stock in drawing materials for inclosing, and building office-houses, the improvement of the farm has been greatly retarded, and the arable land is by no means in the condition it ought to be in. Hitherto, with one exception, the turnip crop has been succeeded by barley, with grass-seeds. A crop of hay was then taken; the grass was depastured the following year,

year, and was then broken up for oats and wheat; after which came pease and tares, and then barley; being a seven years course. This rotation was adopted in order to take in as much of the exhausted arable land with turnips as possible. Had the rotation been shorter, the manure must have been applied more frequently to the same ground. For a few years the turnips were carried off the ground and consumed by cattle in the yard; afterwards only the half, viz. six alternate drills were brought home, and the remainder was eaten on the ground by sheep confined by nets. The whole was afterwards laid down with spring wheat, barley, and grass-seeds. On the part allotted for barley, 18 pounds of red clover-seed was sown per acre, with little or no rye-grass, and was intended to be cut for soiling; the farm working-stock having, till within these two years, been pastured in the fields during the summer months, that being the general practice in the country; but as the farm was advancing in a state of improvement, this slovenly and uneconomical method of feeding was given up, and the stock are now fed in the house with cut clover and tares, which produce a great increase of manure. The difference of crop produced by feeding the sheep on the turnip in the field, and that when the roots were carried off, was very observable. In the former case, the spring wheat produced 11 bolls per acre, whereas in the latter, though the season was more favourable, the produce was reduced to 7¼ bolls. The unsteady sale of the sheep when fat, is no doubt greatly against this system; but still I am so much attached to it, that, in laying out the farm, a considerable part, consisting of the poorer soil, and what was formerly waste ground, and covered with

with furze, situated along the sea shore, is to be separated from the rest by a dyke 5½ feet high, of quarried stone, with two feals on the top, and sown with proper grasses for sheep pasture. The second division, which surrounds the dwelling house, has been laid down in permanent pasture, 6 lbs. of white clover, 4 lbs. burnet, 4 lbs. trefoil, 4 lbs. cow grass, and as much perennial rye-grass, being sown per acre. The grasses are adapted to the seasons; the burnet is an early feed, and the others follow. The remaining four divisions are to be under crop, and the Norfolk system, with some small variation, followed. The first year turnips, one half to be carried to the farm-yard, and the other half to be consumed on the ground by sheep. The second year barley, with grass-seeds on three fourths of the field; the remainder being intended for tares the following year, to be cut for the farm stock. Of the three-fourth parts sown with grass seeds, one part may be laid down with red clover and rye grass in the usual way, to be cut for hay; the other two parts will require 18 lbs. of red clover per acre, without any rye grass, for summer soiling or feeding in the house. The 4th year the best land in the division will be sown with wheat in October, and the rest with potatoe-oats; and the benefit of depasturing until November may be obtained by means of a moveable paling, which will separate it from what is sown with wheat; this paling may be made of sawn planted fir, in the form of sheep hurdles, at a trifling expence, and will also answer for confining the sheep on the turnips much better than nets, which experience has shewn not to be at all adapted for the horned breeds, which are very apt to be lost by their horns getting entangled in the meshes. The

grass

grass division next the dwelling house, with the assistance in hot weather of the cut clover and tares, to be given them in the byres, and the sheep pasture, will keep a sufficient stock of either Cheviot or Southdown breeds, to be crossed perhaps with Merino rams; or if deemed more eligible, a flying stock of wethers and cast ewes may be annually purchased, and put on this division in September, and any that may remain unsold in spring, after the turnips are consumed, may be kept till sold off during the summer, without deranging the general system of the farm; while, on the other hand, should they be all disposed of before the month of May, the young cattle might be allowed the benefit of the pasture till the middle of July. It may be thought by some, that the four years course will be severe cropping, in a country where no manure is to be procured but what is raised on the farm. Granted, as farms in this country are generally conducted, and where the whole farm stock is allowed to range the fields at large; but where house-feeding on cut clover and tares is strictly practised, and all possible means devised for saving every particle of manure, I conceive it very possible, even in this county, to be carried into effect; but it will be necessary to have the office-houses and yard of a better construction than is to be met with in any part of this country, for preserving the dung in a moist state. A little ingenuity, I apprehend, would improve on even those of the south.

"My thrashing mill, which is a very powerful machine, made by the late Mr Currie, goes by water, and the same wheel also drives a meal-mill, and one for striking pot-barley. There is a kiln made of brick contiguous to the mill. It would be a great benefit to the country were

were one or two mill wrights of ability to come amongst us from the south. Since Mr Currie's death, the want of competition in that line has been pretty generally felt, and the progress of improvement in the northern counties is now so great, that one or two is not sufficient for the demand in the country. I make that observation from experience*. During the progress of my little farming, I have been in the practice of using oxen in the farm work; and from a prejudice in their favour have continued them longer than I should otherwise have done. They are slow in their movements compared with horses, and they are apt to get lame on hard roads. When fed on green food, the difference of expence between them and horses is not very considerable, and is I conceive more than compensated by the quick pace and activity of the latter, and their never being laid up during frosty weather. The only instance in which the preference can be given to oxen over horses seems to be on high lying grounds, where much winter work cannot be carried on by horses, and in tearing up new ground, for which the slow steady pace of the ox is well adapted.

"The waste land improved on this farm, as already noticed, was so full of stones that no plough could penetrate it. It was therefore trenched at an expence of from eight to ten pounds Sterling per acre. The whole expence of preparing the ground and putting a crop into it, amounted to little less than L.24 per acre. The marl which I used was that of Culrain, about two miles

* I take this opportunity of recommending to the notice of the gentlemen and farmers of Ross-shire and Cromarty Mr Andrews, a very skilful millwright, now established at Inverness.—G. M.

miles distant. It is of the shelly kind, part of it of very good quality, the rest not equally so. By my agreement with the proprietor, I pay 20s. for as much as I may think proper to lay upon an acre in one year, take or pay; but on account of my stock being so much employed in the improvement of the farm, not above half the quantity of marl has been taken away. It has been applied in different ways, on grass, fallow, and turnips. The effects were most conspicuous after the last; the pasture seemed little improved for the two succeeding years. When the expence of labour in digging out the marl from the pit, and carrying it to any distance, is calculated, it will be found to fall little short of lime at 4s. 6d. per boll of shells; but as marl adds to the weight of light soils, it may sometimes be best to give it preference when the distance is not great.

"I have not hitherto been able to keep many cows on my farm. Those which I have are what may be called a large Highland size, and not by any means in appearance what might be deemed by connoisseurs good milkers; yet by great attention, and feeding them highly, they have produced from seven to nine pounds, and reared nearly each a calf per annum. During the winter months they get but few turnips, as those when frosted are supposed to be hurtful to cows in calf, but after they have calved, and during the spring months, they get a full supply, and in summer they are pastured out, and fed on cut clover in the house during the heat of the day. Were it not for the loss of the manure, it would be a question with me, whether they should not be kept out all night in the summer months. My young cattle have sold in general at from L. 8 to L. 10 when two years old."

The

The improvements which have been executed by Mr Rose of Glastulich, and Mr Cockburn Ross of Shandwick, are eminently conspicuous. It would have afforded me very great pleasure, to have been enabled to give a minute account of the proceedings of Mr Rose, but I am obliged to confine myself to a very general description, not having been able to procure sufficient information. The district of country which he undertook to improve was of a forbidding aspect, being wet and cold, and a great proportion of it moorish soil. He began by draining, and inclosing by hedges and ditches, and stone dikes; and having laid the land dry, he opened it by repeated ploughings. Lime was freely used; and by proceeding with method, and according to the best rules of modern husbandry, he has added some hundreds of acres to the corn-bearing lands of the county, besides improving as many more. His ornamental improvements in planting are thriving exceedingly well. There are many large fields which Mr Rose has improved, more for the sake of ornamenting the country than with views of profit. We are indeed under very great obligations to this gentleman, for having so boldly undertaken the improvement of wastes, which, but for his exertions, might have remained for ever uncultivated.

Mr Cockburn Ross has favoured me with the following account of his extensive and excellent improvements: "At the period when I succeeded by the death of Mr Ross, in the year 1790, to the estate of Shandwick, I was proprietor of the estate of Row Chester, in the county of Berwick, where I chiefly resided. Having been always attached to a country life, and fond of agricultural improvement, and living

in the centre of one of the best farmed districts in the kingdom, I had of course acquired some knowledge of the subject.

"On a careful examination of the Shandwick estate, I found it, in almost every possible circumstance, in a very wretched condition.

"There was, it is true, some exceedingly good and fertile land, but it bore a very small proportion to the extent of the whole. The rent of this good ground was already very high, about two bolls of barley per acre. There were about 650 acres in the different farms, which did not altogether yield L. 50 a-year of rent, being either flooded by the sea, or by water from the adjacent higher grounds, so as to be incapable of cultivation. Through the heart of most of the richest fields, immense chasms were cut in all possible directions, even diagonal ones. The contents to a depth of fifteen feet, and in some places, more than 100 feet wide, had all been carried off for the wretched system of earthen compost, by which I speak within bounds, when I say, that besides disfiguring the fields, and rendering it impossible to lay them into square breaks, from thirty to forty of the richest acres were annihilated, and it was an evil daily increasing, for neither threats nor persuasion had any effect in preventing the continuation of this most ruinous practice.

"The tenants paying above L. 10 a-year were about twenty in number, almost all poor, entirely ignorant of good farming, and most obstinately wedded to their old pernicious habits; one only was possessed of some wealth, but he was the worst farmer of the groupe. Four good horses would, with perfect ease, have done the labour of this man's farm, but his general allowance for

for this purpose, was between thirty and forty shelties, and forty small oxen, many of which, every winter and spring, perished through absolute want. There was not one acre of fallow or turnip on the whole property. And, except on one small farm of L. 47 a-year, the only accommodations the people had for themselves and their cattle, were chiefly built of turf, and in a ruinous state. In short, nothing could be more disgusting to a proprietor coming from a highly improved country, than the universal appearance of this estate, and to increase the evil, every year produced a considerable arrear of rent, which proved often irrecoverable. For some time I tried, by advertising the farms to be let, to procure a set of better tenants, but I did not succeed in any one instance, and never was offered even the then rents by any stranger.

"In this untoward situation, there appeared to be no alternative, but either to submit to the continuance of this deplorable system, or to begin the improvement of the land, by taking it into my own hand, a measure which my residence in Berwickshire rendered very inconvenient, and which was not likely to prove so beneficial and profitable as it might have been if I could have personally superintended the operations.

"In the year 1792, however, I resolved to make the attempt, and sent to Shandwick, in the parish of Logie, three clever and experienced Berwickshire servants, with the necessary horses and husbandry utensils, of the best contruction. The farm consisted of, 1st, infield land of a light turnip soil, some of it good, about - - - 134

"2d, Of poor marshy pasture, whereof a considerable part was a complete morass, and the rest mostly

mostly overflowed by the sea at spring tides, 185

"3d, Moor of very poor quality, having formerly been skinned for turf and divots, 92

411

"The whole was possessed by four tenants in nearly equal quantities, at a rent of about L. 120 Sterling. This rent may be said to have been paid almost entirely for the infield land, as the whole of the remainder was in such a state as to afford only a very poor maintenance for a few garrons * and cattle, and was not counted worth L. 10 altogether.

"It does not appear of any consequence to detail the progress of the improvement, as there was nothing particular in the means employed, further than to mention, that from the first I introduced the culture of turnips on a pretty extensive scale, having generally near thirty acres of that crop every year on the farm, drilled and managed in the best manner, and being always excellent in quality, they enabled me to obtain a great quantity of manure, an article absolutely indispensible in any improving system. It may also be noticed, that on some of the low wet ground, which had a considerable mixture of clay in it, and which was not originally worth two shillings and sixpence an acre, I have had about ten bolls per acre of wheat of excellent quality. And that on the infield land, I have had barley after turnips, which weighed half a stone per boll heavier than the original Norfolk barley, which I sowed for that crop. I have also often had several acres of carrots annually, and always excellent; and this

* The name for small Highland horses.

this article I look upon as a very beneficial one for horses, cows, and pigs. I never, in one instance, failed of having a good crop. My mode of raising them was, to dung and plough the land immediately after harvest, generally on oat stubble, (the winter frost is essential for preventing the dung injuring the crop). The land, after proper ploughing and harrowing, was put into drills narrower than for turnips, in the end of March. The seed was steeped twenty-four hours in dish-washings, and then spread thin on a timber floor, where it remained a day; it was then mixed with dry saw-dust, and well rubbed to separate the seeds as much as possible; a small opening was made along the top of the drill, with a common hoe, and the seed sown there by the hand, and then slightly raked in.

"On the whole, the result of my improvement on this part of the estate is, that I have planted about 118 English acres in masses, clumps, and belts, around the mansion house, which, with the offices, &c. I have built from the foundation; that I have drained the whole wet marshy ground, and completely defended from the sea those parts that were subject to be overflowed by it. I have also levelled down the whole chasms in the fields, made by the earth-midding system, and taken into culture a considerable quantity of the moor, so that every acre of the whole, (except what is planted,) is now inclosed and under tillage.

"I have let to a respectable Berwickshire tenant, on a nineteen years lease, between eighty and ninety acres of the infield land, with about 100 acres of the low ground, formerly a morass, and overflowed by the sea, at a rent of L. 250, and at which rent it is a very great bargain, and I retain in my own hand the remainder, of about

about 200 English acres (besides the plantations of 118). These 200 acres, I think, worth about twenty shillings an acre over head, in their present state, though they are still capable of great improvements, so that the rent may be said just now

to be about - -	L. 450	0	0
"The old rent was -	120	0	0
Making a rise of	330	0	0

"With respect to my property in the parish of Nig, I found it impossible to proceed with the extensive improvements it required, unless I should reside in this country; and accordingly I came here with my family, in November 1799, after having by that time improven and embellished my Berwickshire estate, as far as it was capable of. That part of the estate in the parish of Nig, consisted of the farms of Culiss, Rarichies, Ankerville, Balaphueil, and Old Shandwick, besides an extensive hill, chiefly moor, bounded by the Cromarty Frith. I have already noticed the miserable state the chief part of these were in, and that I could not let any of them to a better race of tenants, even at the old rents, because the rent of the good land was already very high, and the remainder, without great expence in inclosing, draining, building, and other indispensible outlays, was incapable of cultivation; but I clearly saw, that these waste lands were susceptible of high and permanent improvement; accordingly, I took the whole, with the exception of two small farms, into my own hand. And here again it would be needlessly consuming your time, to enter into the minutiæ of my mode of proceeding. I shall therefore only mention the leading outlines. There were in the

the low grounds of Ankerville near 200 Scots acres, overflowed by the sea at spring-tides, insomuch that the houses of some small tenants, who laboured a small part of them, though placed on the highest spots, were sometimes in so dangerous a state in certain high tides, that they have been obliged to fly in the middle of the night to escape drowning, the water having risen several feet within their habitations. The whole of these I have completely defended from all encroachment of that element by an embankment, which, as it has perfectly succeeded, and as the particular description may be of some use to others, I shall here specify the original agreement with the contractor. "The height of the embankment to be at an average six feet, (N.B. in many places it was greatly more), a nearly straight face to the inside, and a gently sloping bank, all round next the sea; the base not less than twelve feet in any part, and more where necessary. The whole face and bank to be entirely covered with turf of proper thickness, neatly cut and joined, and every row to be well beat down, and jointed every one over the other like brick-work; a ditch within,—about three feet from the face-dike, is to be made all the way round, on the inside, of five or six feet width, and suitable depth, and the earth that comes out of it to be put into the bank, and if more is required, it is to be taken from the outside, at a proper distance, so as there may be at least twenty feet of whole ground next the bank. The whole earth to be hard rammed. The top of the whole is to be made on one uniform level, and every part of the work is to be most substantially completed, in the best workmanlike manner." I need only further add, that two

sluices of a simple construction were laid through the bank at the lowest places, for draining off the land water. These, yielding to its pressure, permitted it to flow out at low water, and when the tide rose it shut them on the same principle. From the number and extent of my other operations, I have not been able to overtake the agricultural improvement of these low grounds, but, as they are now completely and permanently dry, and a great deal of them of excellent soil, I have no doubt they are worth about thirty shillings per Scots acre, though, in their former state, the whole yielded only about L.25 of rent, and I mean to annex them to the farm of Ankerville, by which they are bounded on the south, and the lease of which expires in a few years. Meantime, being all in grass, grazing cattle are taken in for the season.

"In the farm of Culiss, and part of Rarichies, were near 300 acres overflowed by surface-water from the higher grounds, and which, on that account, were incapable of cultivation, and had never been ploughed. A great deal of these was, however, rich water-fed land, and there was not a stone or whin bush to obstruct the plough in any part.

"The only mean of draining these valuable lands was by making a canal from the sea at the sands of Nig through their whole extent. This had been in contemplation of the neighbouring heritors for more than half a century, who having a great extent of ground in a similar situation, would have derived proportional benefit from the measure. But, after various and repeated attempts to obtain a general concurrence, I found it impossible, and therefore was reduced to the necessity of seeing this farm remain in its waste and unprofitable state,

state, or to execute the work myself. I resolved on the latter, and Mr Rose of Glastulich having joined in the expence, through a small part where his estate joined with mine, I have finished the canal, the dimensions of which are twenty-two feet wide at top, and eight at bottom, and on an average about seven feet deep, and the whole is near three miles in length.

"It has so completely answered the intended purpose, that in many parts where such swamps were, that in summer a horse could not pass through them, the land has been ploughed in the winter season by a couple of horses with ease, for the first time since the flood.

"In short, by proper cross-ditches communicating with the canal, and necessary for dividing the farm into suitable fields, the whole is now perfectly dry, and in a state, if properly managed, to carry any crops.

"The other chief improvement on these farms was breaking down the steep banks of the chasms before mentioned, and bringing into regular culture many detached spots interspersed in various places among the arable land, which yielded nothing, and besides greatly hurting the general appearance of the fields, prevented their being laid into neat and square divisions.

"On the whole farms I have built complete squares of offices, so that nothing is wanting for the accommodation of the tenants; and, in consequence of these improvements, I have let the farm of Culiss at an yearly rent of L. 700, and the farm of Rarichies at L. 665, both on leases of 19 years, and to two respectable and substantial tenants, being near three times the rent paid by the former tenants for these two farms.

"The other farms having long been under lease, I need not take notice of them, as I have hitherto had no share in improving their value.

"Besides

"Besides the plantations at Shandwick, I have also planted about 800 acres on the hill of Nig.

"Such, I think, are the chief articles worth mentioning to you. Roads, walks, shrubberies, &c. &c. are not quite within the farming circle, though I have made a good many of them for ornament; and considering that this large mansion-house and offices, the squares of the farms of Shandwick-mains, Rarichies, and Culiss, with thrashing and corn-mill, and all the canals, inclosing, and sea-embankments, have been executed within eight years from 1800, I think you will allow I have not been altogether idle; considering also, that I have been my own planner and designer in all these operations.

"I shall only add a few loose general observations:

"1*st*, As to planting, I have found oak and birch by far the best thrivers of the hard wood kind, and to grow in any soil, wet or dry, rich or poor. None can thrive better than mine are doing on as miserable, wet, sandy moor, as can be seen, and where too there is a considerable quantity of ferruginous particles mixed with it, insomuch that neither Scots fir nor larch would live on it, till I trenched it fifteen inches deep, since which every kind of tree flourishes—give the roots of a tree free access all around, and to a certain depth, and it is not nice as to the quality of the soil. I have also found it of infinite advantage to cut over, close by the ground, oak and elms, after being two or three years planted, particularly if they have the least of a stunted appearance. I have many cut over last winter, that this season, in that miserable soil, have made beautiful, strong, healthy, straight shoots, between four and five feet long.

"2*d*,

"2*d*, As to Ross-shire at least, from Strathpeffer to Tarbatness, from all the experience I have had of it, I am clear, that our soil and climate are well adapted to every kind of agricultural improvement, and that we have less frost, fewer snow-storms, and fewer extremes of wet and dry than in most parts of Scotland, or north of England, that I know; wherefore, we have every reason to hope for the rapid improvement of our agriculture. Our great want is south country tenants of skill and real capital, without both of which, farming is impracticable; and I am sorry to have had reason to know, that some of these we have got to Ross-shire seem anxious to keep strangers out of the land as much as they can, by improperly sinking our advantages, and magnifying any local disadvantages we may labour under, for the evident purpose of preventing the market being raised to themselves, when they want to take more land. This may have some effect for a time, but the real value of our land will soon find its just level. As yet, compared to the rents, they are daily giving in the south, none of ours is yet let much above a half of its proportional worth. One great inducement to strangers would be for proprietors, at their own cost, to build suitable dwelling-houses and offices on every farm, as is the invariable system in the south. It is absurd to expect a tenant from that quarter is to expend a great part of his capital, occupy his horses and servants, and waste two or three years of the first of a lease in building for the landlord, while he should be straining every nerve during that period to get his land into regular and productive order."

To

To describe the effects which have everywhere followed the occupation of land by every proprietor, would require a large volume. There are very few of them, indeed, that do not zealously cultivate part of their estates; and there are many whose scale of operations extends to two or three hundred acres.

The recent improvements executed by Mr Mackenzie of Hilton in Strathpeffer, have greatly beautified that district. He has added to his farm a considerable part of the bog of Strathpeffer, and it is hoped that the rich crops he has reaped from hitherto useless land, will stimulate the proprietors of the remaining part of it, to remove from the sight of strangers, the only thing which, in this part of the country, can really be called a proof of indolence *.

I have mentioned only recent improvements, as it would be difficult to enumerate those of an old date. I shall however mention two instances, in which very great exertions, proportioned to the means, were used to reclaim land of the very worst description. Mr M'Leod of Geanies, with great perseverance, has converted into good soil, a very large extent of what was a barren and unsightly moor. He brought shell-sand from the west coast, and the use of it rewarded the trouble and expence of procuring it. His whole farm is completely inclosed, and is now in the best order. This gentleman has lately commenced more extensive improvements;

* Since what is above was written, I have been informed, that the improvement of the bog is under serious consideration.

improvements; and his well known skill, attention, and preseverance, leave no doubt of the result of his undertaking.

The improvements of the late Sir Hector Munro, although the money which they cost was not always well applied, were executed in a style, and on a scale beyond any which people in this remote corner could have imagined. The soil about Novar is exceedingly bad; but wood thrives well in it, and, by dint of cash, it has been forced to yield corn and grass. During Sir Hector Munro's lifetime, he expended upwards of L. 120,000 on the place of Novar, which I believe does not return a quarter per cent. The place is pretty, though much spoiled by innumerable rows of gate pillars, besides a number of fantastic statues and buildings stuck upon every eminence. The imitation of a village has been erected on the top of an almost inaccessible hill, and it has been painted white, in order to contrast it with the sombre firs that surround it. The view from the house is extremely fine; it was opened by removing a pretty extensive rising ground, which interrupted the view of Cromarty. From one or two points Novar looks beautiful, and on the whole may be called a fine place.

Many will be surprised, after reading thus, for to find no mention made of the improvements around Brahan castle. Long before I arrived at this part of my survey, I made application for the particulars connected with them. But they are so extensive, that it seems it is impossible to collect them into a reasonable space; and Lord Seaforth being too much engaged to give a particular description of all he has accomplished,

complished, I am obliged, from my own observation of my neighbour's proceedings, to give only a short and faint outline of them. Lord Seaforth occupies, on the north bank of the river Conan, an extent of nearly three miles long, and from a quarter of a mile to one in breadth. This has been laid out according to the nature of the soil, into extensive fields and plantations, and a large portion is devoted to the feeding of deer. There is no situation in Britain where trees of all sorts thrive better than about Brahan; and I may add, that every one to whom planting is an object, may here see the effects of good inclosures and care. The pleasure grounds are beautiful, and are every year becoming more extensive. From the circumstance of the great extent of the improvements carried on about Brahan, the fields have never been regularly cultivated, but were laid down with grass, and let for several seasons at the rate of from L. 2 to L. 3 per acre. The crops raised are generally good. His Lordship has begun to use lime, from which he may expect to derive very great advantages. Almost the whole of the soil is a fine light loam, well adapted for turnip husbandry; and were the fields laid out for a regular rotation, we could not find in any situation a more productive farm. Lord Seaforth is intimately acquainted with every branch of rural affairs, and this, joined to his uncommon liberality and activity, presents an example truly noble.

I must now turn my attention to the effects which have followed the occupation of land by farmers of the superior class. I should have had much pleasure in extending this division of my subject to its utmost limits,

mits, had I not met with what astonished me exceedingly, a refusal on the part of some farmers to afford the smallest particle of information. To avoid as much as possible falling into error, and having no desire to arrogate to myself any merit from this survey, than that little which I may obtain for the trouble of mere writing, I resolved, from the first, to give each gentleman's and farmer's account of his proceedings in his own words. I have been advised by some of my friends to give an account of the farms of those persons alluded to from my own observation, and whatever sources of information I could reach. But, although I could give some general details with tolerable accuracy, I am not disposed to take what has been refused; nor do I think it would be at all fair in me, to comment upon the reasons which were assigned by these gentlemen for not assisting in a public, and by no means an unimportant work, such as this inquiry *. Without dwelling, therefore, longer upon this branch of the subject, I shall inform the Board of the proceedings of some farmers, whose intelligence in agricultural operations is, at least, equal to what is possessed by those who seem so tenacious of their secrets. In the following communications, the Board will find very good management displayed.

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* It is a great check to the progress of agricultural improvement, that farmers are often so backward in communicating the result of their observation and experience to the public. They do not consider how much that art, on which their livelihood depends, is improved, by a general circulation of ideas regarding it; and that a farmer may thus obtain the knowledge of a practice, which may be of infinite advantage to him.

Muckle Tarrel, the farm of Mr George Mackenzie, is situated on the eastern, and *Fodderty*, that of Mr Forbes Mackenzie, in the western district.

"The farm of Muckle Tarrel consists of above 600 acres, of which 260 are arable, 240 being close-fields, and 20 detached from the farm, and let to cottagers. The remainder consists of moss and barren moors, of little or no value. The soil is rich black loam, on a clay bottom; it is in general dry, and strong enough to bear summer fallowing and wheat, and to yield heavy crops of turnips. The rotation practised is a four shift course.

"The 240 acres of close-field are divided into four breaks of 60 acres each. The first consists of 30 acres turnips, 15 bare fallow, 10 potatoes, and 5 of tares.

"The 2d, of 30 acres of barley, sown down with grass-seeds. The 30 acres of fallow, potatoes, and tares, are manured, and sown in October with wheat; and grass-seeds are sown in the month of April, harrowed and rolled.

"The 3d, of 30 acres white clover for pasture, and 30 acres of red clover, partly made into hay, and partly cut green for feeding the farm stock; the tares are also used for feeding in August, before the second growth of clover gets up.

"The 4th, of 20 acres of what had been sown down with barley, broke up for wheat, and the remaining 40 acres broke up for potatoe-oats. The second course is the same, only what was fallow, potatoes, and tares, is now turnips. By following the above rotation, there are

60

60 acres in grass, 60 in fallow, potatoes, and tares, 50 in wheat, 40 in potatoe-oats, and 30 in barley.

"Access to sea-weed, and a lease of manure from a neighbouring fishing-village, put in my power to follow the above rotation. When the soil is good and equal, in my opinion the above rotation is the most profitable. By avoiding taking two crops of corn in succession, the land is kept clean, and less labour and manure are required. I find by experience, that wheat answers best on grass-lands, if broken up the first year; if left longer, potatoe-oats are more profitable. I also find the crops equally good when the grass has been cut for hay, as when pastured for one year. I am not partial to growing many potatoes, as the land is never got so clean as when in turnips or fallow. The potatoes being planted early, there is no time for preparing the land; but being the principal article of food for the poor, induces me to give a certain portion of land for them, to the cottagers employed on the farm.

"I have for some years given up sowing pease and beans, having found them unprofitable.

"The farm work is performed by five pair of horses, partly bred in the country, and partly bought from the south-west of Scotland. They work ten hours a-day, when the length of the day permits, and are fed during winter with two feeds of corn, straw, and turnips; and in spring they have three feeds of corn, potatoes, and hay. During summer and harvest, they are fed in the house with clover and tares, and corn, if wrought hard. The ploughmen do no other work the whole year round, but perform their yokings, feeding and cleaning their horses. In winter, when the wea-

ther permits, the horses are employed in ploughing, first what is intended for green crop and fallow, and then what is intended for oats; and occasionally in thrashing, and storing turnips. When frost sets in, the horses are employed in carting dung from the farm-yard, to the field intended for turnips and potatoes. The dunghills are placed so as to lessen labour when they are to be spread. In forming the dunghill, the carter draws the dung out of the cart with a hack, and spreads the surface equally with a fork, no treading being allowed, as it prevents fermentation.

"The sowing of oats begins about the middle of March, and, if the weather is good, is commonly finished in ten days. The potatoe land then gets a second ploughing, and lies in that state until the barley and grass-seeds are sown, which are commonly finished about the middle of April. The potatoes are then planted, and the five acres of tares sown. We next begin working the fallow and turnip ground, by ploughing, harrowing, and gathering, until the land is brought into a proper tilth. In my opinion, to raise a good crop of turnip requires greater attention than any other crop. The land being completely cleaned and prepared, I generally begin sowing in the first week of June. The drills or ridges are formed by a double mould-boarded plough, which performs the work in the most expeditious manner. When five drills are opened, four single carts, with four men filling, are employed in laying on the dung, which is laid in small heaps in the centre drill, and is carefully spread by five women, with their hands, the dung being so rotted as to fill with spades; it requires the greatest care in spreading it, as the success of the crop depends, in a great

great measure, on the attention paid to this part of the operation. Blanks are frequently occasioned by want of attention in spreading the dung. A second plough of the same kind is then set on to cover in the dung, when the sowing-machine regularly follows, so that all the drills, opened and dunged, are sown the same yoking. By following this method, and care being taken that the machine sows the seed so deep as to have the benefit of the moisture of the dung, there is no risk of not obtaining a braird in the driest season. The drills are made twenty-eight inches wide, and the quantity of dung used is about twenty loads per acre. The whole force being kept at work ten hours, and regularly attended, will completely finish five acres.

"We have several ploughs of the different descriptions used for cleaning turnips, one of which is introduced to clean the intervals before the hoeing begins. So soon as the turnips are off the brairding leaf, the hoeing process commences, which is performed by women. At the first hoeing, the turnips are singled out at eight inches distance. After the first hoeing is over, the horse-hoeing plough is again introduced, and the turnips are hoed a second time, and so on until the field is completely cleared of weeds. If the land is wet, the turnips are set up with a double mouldboard plough; but if dry, that operation is unnecessary. By observing the above rules, I have never missed a heavy crop of turnips, and the succeeding crops also good. The months of July and August are employed in making hay, working the turnips, and dressing the fallow grounds. About the last week of August, harvest generally commences; and when the horses are not employed in driving corn into the yard, they

they are busy in dunging and seed-ploughing for the wheat, the sowing of which begins, and is generally ended in October. Previous to the wheat being sown, great attention is paid to the pickling process, by which I have hitherto escaped having any smut. The above business of wheat-sowing being finished, and properly water-furred, finishes the operations of the year.

"*P. S.*—When drifted sea-weed appears on the shore, attention is always paid to the carting it; and marl is laid on the turnip, fallow, and grass lands, as convenient, the pit from which it is taken being on the farm.

"With regard to the stock, there are six milch cows kept, of a mixed breed, and each farm-servant has also a cow kept the whole year. Being far from market, the produce of the dairy cannot be turned to such good account as otherwise it might. For some years I tried the breeding of cattle, but, from the low price of them for some time back, I gave it up as an unprofitable concern. I have now adopted the method of buying three and four year old stots, for consuming my pasture and turnips, which are generally disposed of to drovers for the southern markets. When I feed for the butcher (which is the case this year) I have the cattle tied up, well bedded, and straw given them to eat at mid-day, and all night. When intended to be drove south, they go loose in sheds, as they travel better after such treatment, than after having been staked.

"Of sheep, I only keep a small flock of the Leicester breed, which I think feed faster, and are easier herded than any other, being of a quiet disposition. They are

are fed in summer on white clover, and on turnips, hay and straw in winter.

"We have an excellent breed of pigs in this corner. In the year 1806, L. 1400 worth were purchased in this neighbourhood, and killed and shipped at Port Mahomak in this parish.

"The implements of husbandry are much the same as those used by farmers in the south of Scotland. There is a thrashing-mill of four horse power on my farm. Thrashing-mills are more generally used now than formerly. Four have been erected in this neighbourhood this season. In the year 1800, when I entered this farm, modern husbandry had made no progress in this parish, excepting at the Place of Geanies, where there is about 400 acres improved and inclosed; and Mr Macleod the proprietor is now improving two other farms of considerable extent. At the above-mentioned period there was neither wheat, turnips, or grass-seeds sown hereabouts. There is now a great change, as there are about 1400 acres farmed under a regular system.

"Mr Mackay of Rockfield is also improving his property, and farming on the best principles. The practice of sowing corn in drills has been introduced by Mr Dudgeon, who has brought his farm of Arboll to a high state of cultivation. He has a fine flock of Cheviot sheep, which thrive remarkably well, and a few choice highland cows, from which he breeds very fine stock, the calves being allowed to suck their mothers and run at their feet.

"Several small tenants are now following the example of sowing turnips and grass-seeds; but from the want of capital, leases, and proper encouragement from their landlords,

landlords, they cannot do much in the way of improvement."

"The Farm of Fodderty consists of 330 acres of arable land, and 178 green pasture. 202 acres lie on the north side of the rivulet, from which the land rises with a rapid ascent, and has nearly a south exposure. The land on this bank is a fine free loam, with a crumbly rock or gravel subsoil. The rock *, when tured up to the air and frost, moulders in the same manner as marl or clay.

"This land yields excellent crops of red clover, pease and beans, without lime. Of the 202 acres, there are 100 on the heights divided into small farms, and subset to the old tenants at the rents paid by them before the present lease was obtained. The other 100 acres are divided into four divisions, and the rotation consists of, 1st, fallow; 2d, wheat; 3d, grass for hay; 4th, oats. The other 128 acres lie on the south side of the rivulet, along the foot of Knockfarril. The whole of it, except what is close to the foot of the hill, is a brown mould or loam. The whole of this part of the farm, before I occupied it, bore very light crops, and was full of annual weeds, broom, &c. The greater part of it has now been limed, and is divided into five parts, with a rotation of, 1st, turnip; 2d, bear; 3d, pasture; 4th, pasture; 5th, oats.

"As lime is not to be had at all seasons in this country, it was generally driven in July or August, and spread on the stubbles after a crop of oats, at the rate of twenty bolls of Sunderland shells per acre, and ploughed

* Stink-Stein, or Swinestone. G. M.

ploughed in immediately, in which state it lay all winter, and the land was wrought in spring for turnips. The lime applied in this way, with the assistance of dung, has yielded excellent crops of turnips, and very few annual weeds were to be seen in the bear crop. Turnips were tried with fully more dung than what was given with the lime, but the crop was very indifferent. The bear crop was full of annual weeds, and the pasture grass laid down with it did not turn out well; but after the lime, the pasture has been equal to any in Scotland.

"The 178 acres green pasture lie principally on the north side of Knockfarril or Fingal's Hill, and is excellent pasture for sheep. The rent of the whole farm is L. 467, 2s.; the one half payable at Whitsunday, the other at Lammas, after shearing the crop. The proprietor allows L. 46 : 1 : 7 yearly, for ten years, out of the rent, for inclosing the farm. He also allows L. 600 for building, viz. L. 60 per annum for ten years; the tenant pays five per cent. for the money laid out on the buildings.

"My servants are almost all married men, and are engaged by the year. They get a house, small garden, 18 small cart-loads of peats, and L. 6 per annum, besides six bolls of oatmeal, and about one rood of land planted with potatoes, with dung from my straw yard. They also get a pint of whey, or milk, during the summer and harvest months. Boys I feed in the house, and give 25s. to 30s. half-yearly. To labourers, I give 1s. per day, summer and winter; during harvest, they get breakfast, and 1s. per day. To girls for hoeing turnips, making hay, &c. 6d. per day.

"To

"To shearers, per day, 8d, and breakfast. Casting a drain 2½ feet deep by 14 inches costs me 1d. per ell; ditto 3 feet deep by 5 to 6 broad 3d. Building stone dike 4 feet high, with stone coping, 6d. per ell. Quarrying stones for the dike 10d. per ell. Carrying the stones from the quarry, according to distance, say ¼, ½, ¾ mile, 5d. 7d. 9d. per ell, and grass to horses. Thrashing wheat 10d. per boll, bear and barley 1s. per boll, oats 9d. per boll.

"I found thirty cottagers in the two villages of Inchrory and Millnain, all of whom remain. Before my lease commenced, many of the people occupying them were very poor. The greater number of the women were in the habit of going to East Lothian to shear. The men sometimes went south, some to Caithness, and other parts of the country during the spring and summer months. They returned in winter, and remained idle at home. They now find employment all the year round on the farm, some quarrying stones, others casting drains, ditching, trenching, &c. in summer, and thrashing in winter. The women are employed in turnip-hoeing, hay-making, and cutting down the crop. None of them now leave their houses for any part of the year.

"Each of the cottagers get as much land for planting potatoes as they can dung with their ashes, ferns and stubble converted into dung. The land is ploughed, and the dung laid upon it. They plant and raise them with the spade. The greatest number of them have small gardens attached to their houses; and for all these benefits, I do not exact even one day's work without paying them. Some of the men contrive to keep a small horse to lead peats, which, with the help of some

 brush-

brush-wood, is the only fuel used by the cottagers; they also dig roots of fir out of the mosses, which they split into small pieces, and use it for light in winter."

From the proceedings of Mr Mackenzie respecting his cottagers, may be derived a powerful argument against the supposition, too generally entertained, that the engrossing of small farms *necessarily* depopulates the country.

Mr Reid of Kinnairdy, of whom honourable mention is made by Sir John Sinclair, still continues to support the character he has deservedly acquired, of being a steady and discerning farmer; and, though an old settler, he does not in any respect yield to the young farmers who are rising about him. I hope he will yet live long to enjoy the fruits of his meritorious exertions.

Few of our clergy display much activity in farming. Mr Mackenzie of Knockbain, has surprised his neighbours by his bold and successful improvements on his glebe.

Mr Bethune of Alness has recently taken a farm near his own house, and has begun with so much spirit, as leads us to expect a great deal from his exertions.

But of all the daring enterprises in farming, that of Mr Mackenzie, minister of Fodderty, stands most conspicuous. This gentleman has succeeded in rendering productive one of the most barren and forbidding pieces of moor I ever saw, so much so, that it was long deemed unfit for planting. Mr Mackenzie has favoured me with the following account of his proceedings.

"In compliance with your request, I beg leave to mention

mention to you the manner in which I improved my share of Strathpeffer moor. Notwithstanding the ridicule of my neighbours, and the amusement which my attempting to render arable any part of that miserable subject has afforded to many, who carelessly observed my operations, yet when I began my improvements, I had little doubt of their beneficial consequences, and am now satisfied it will return me a benefit sufficient to compensate my outlays, and the risk I ran.

"In 1803, I took a lease of the farm of Achterneed, with 50 acres of Strathpeffer moor, from Mr Mackenzie of Cromarty, the proprietor. This moor was as wretchedly poor and unproductive a subject, both to the proprietor and tenants, as any in the country, and did not actually produce 20s. worth of food for man or beast, even with the most favourable seasons.

"The soil consists of a thin gravel, with an immense quantity of small stones, and was chiefly covered with a starved heath. Although situate in the rich valley of Strathpeffer, this moor was of so forbidding an appearance, as to have been considered incapable of cultivation, and was a most unpleasant object in the midst of a well improved valley. Encouraged, however, by its warm, well-sheltered situation, its level surface, easiness of access to the means of improvement, and its being nearly a perfect plain, I resolved to try what could be done for its melioration.

"In winter 1803, having cleared the surface of a few thorns and whins with which some parts of it was covered, and removed every loose stone, and many of the sit-fast ones, I began to plough the moor. This I found a most arduous undertaking, even with four large

large horses, attended by two men, besides the ploughman and driver, who assisted in keeping the plough in the ground, turning the furrows, and bringing to the surface all the stones we met. Having that season ploughed eight acres of the moor, I allowed it to remain in the same state till the following winter, when it was cross ploughed, and by three following ploughings it was sufficiently reduced. At every ploughing I continued to remove the stones, and used the harrows. Having then laid on 30 cart loads of lime-rubbish, and rich earth, with about 20 loads of dung on every acre, I sowed, in the months of July and August, the whole with broad-cast turnips, and fed them off by sheep, allowing them to go at large on the whole moor. This was followed by a crop of oats, and sown down with grass seeds. The oats were an excellent crop, returning from 6 to 7 bolls per acre. Having found the grass very good pasture, I have allowed it to remain for four years pastured, and then ploughed it for a crop of oats; but as I am only now employed in turning up what was first sown down, I cannot say what it will produce; but the appearance of the soil is equal to my expectations. In a manner exactly similar to what I have described I have gone over above forty acres of the moor; with this difference only, that when my supply of lime rubbish and rich earth failed, I substituted about 16 bolls of Sunderland lime-shells to every acre, having slacked the lime, and applied it immediately after. I have however uniformly observed, that the grass was greatly better where I used the rubbish, than where the lime was applied. Having kept no exact account of the quantity of labour applied, I cannot speak precisely of the expence. I was extremely fortunate

fortunate in having got about 700 cart loads of rubbish for the trifling sum of L. 14. Although I had to drive 500 loads of this a distance of more than three miles, yet I consider the melioration of my moor to be in a great measure owing to this fortunate circumstance, occurring at so favourable a season for my improvement. I have been frequently offered a rent of 20s. per acre, for the grass on every part of the moor which I have improved; but I have every reason to hope that by ploughing it up and cropping it carefully, it will return me more money by a judicious rotation of crops."

I now proceed to describe the mode in which our Highlands are occupied. Extensive tracts of country are still in possession of the natives, some of whom have also low-country farms. Many of them having become convinced that sheep are more profitable in general than black-cattle, have attempted to devote part of their pasture to them; but in this, as in every other case, the steps of the Highlanders towards improvement are cramped and aukward. They have no capital to lay out in purchasing a proper stock; but they buy all the cast animals from great farmers, and thus gradually collect one of the worst description possible. The hills possessed by the natives are universally overstocked. A few of them have very good cattle, but in general no attention is paid in selecting for breeding. It is an universal practice with our great sheep farmers, to keep considerable numbers of black-cattle, on such parts of their farms as are not well adapted for sheep. This discrimination, besides being of great importance to the country in general, by preserving a sufficient number of cattle, has been found to be very profitable.

Sheep

Sheep-farming, like every other speculation which holds out great profits, has tempted many persons to embark in it, who had not sufficient capital, and who were deficient in that skill, and patient attention, which are absolutely necessary for the good management of a sheep stock. As might have been expected, the competition for farms became excessive; and rents were given which were extravagant, even if what was but doubtful had been taken for granted, viz. that the profits would keep pace with the multiplication of farms. The consequences of a bad season were never thought of; nor did proprietors show any other desire than to raise the amount of their rentals. They have had indeed the satisfaction of entering into leases which promised large additions to their incomes; but the winter of 1807–8, has probably taught a lesson that will not be soon forgot. But because farmers were so foolish as to offer rents which they could never pay, and because landlords were so greedy as to accept them, we must not be rash in attributing the many failures which have lately occurred to any thing bad in sheep-farming. We know for certain, that no other stock could yield half the rent which sheep can well produce. The great objection which has been stated against this mode of occupying our mountains is, that it depopulates the country. That it does so in general, may be allowed, though there are instances where more people are to be found in districts occupied by sheep, than before these animals were introduced; but, in almost every case, the original occupiers have been removed.

The advantages of sheep-farming, since it has been fairly established, have never been denied, and we have heard

heard but a few feeble voices exclaim against the necessity of removing the former possessors, to make way for shepherds. This removal has been called cruel, and calculated to diminish the strength of the nation. The necessity of reducing the population, in order to introduce valuable improvements, and the advantages of committing the cultivation of the soil to the hands of a few, have been discussed by men much more capable of doing justice to these subjects than myself. I shall, however, in a proper place, venture to offer some remarks on a matter which is, in a very high degree interesting to the country I am surveying.

I now proceed to detail the history of sheep-farming in Ross-shire and the consequences of its introduction.

The great improvement of the value of estates situated in the Highland district of Ross-shire, in consequence of the introduction of sheep, owes its rise to the late Sir John Lockhart Ross of Balnagown; who, although bred to the profession of arms, in which he gained much renown, proved what the exertions of an active mind can effect in any situation. After the peace of 1763, the nation enjoyed a long period of repose, and this gallant commander settled with his family at Balnagown Castle. He immediately set about improving his estate in the low parts of the country, by planting large tracts of ground, inclosing and draining others; and he examined with minute attention the situation of his whole property. By going over the Highland part of it frequently, he observed, although it was very extensive, and appeared to be of good quality, that from the then existing system of management, it yielded very little revenue to himself, and was of very little use to those who occupied it. He

had observed, while travelling through the Highland districts of Perthshire, that the black-faced, or Linton breed of sheep, were kept exposed to the severest winters by the farmers in that country, and were a far more profitable stock than black-cattle. It was not supposed, at that time, that a sheep could live, if exposed to the storms which are generally felt in the Highlands of Ross-shire. But Sir John believed, and found that the climate of the low part of Ross-shire was as mild as any part of Scotland; that it ripened the same kinds of corn, when they were properly cultivated, and the same fruits, as the low parts of Perthshire, and the Lothians; and concluded that our hills, which are not higher than those of Perthshire, were fit for rearing the same kind of stock with as much advantage. Being thus prepossessed, Sir John determined to make a fair experiment. But he had more than ordinary difficulties to encounter. At the time he succeeded to the estate of Balnagown, a very great proportion of the Highland property was parcelled out into farms, and let to the proprietors of land in the low country, who were accountable for the rents, while they were permitted to subset the greater part to the natives. They reserved for themselves as much ground as would support their labouring cattle during 4 months of summer and autumn, and also a few milch cows, and the young store reared from them, which were committed to the care of servants. When these leases expired, Sir John did not think it for his interest to renew them; and the gentlemen who had them had made so little profit, that their disappointment at Sir John's determination was not great. It was not so, however, with the natives, who were obliged to pay a large rent, and lost the protection

tection of their former masters, who used to supply all their wants, and take their rents whenever the people thought proper to pay them. Sir John took one of these farms into his own occupation, put upon it a stock of sheep bought at the Linton market, and hired shepherds of that country to tend his flock. When the shepherds first came to the country, they must have found themselves very disagreeably situated, amongst a race of people who considered them as intruders; whose language they did not understand; and who used every art to discourage them, and to render their lives miserable. The losses of sheep, from the depredations of the people, and from mismanagement, were enormous; and the flocks could not be supported, but by annual importations from the south country, and as frequent changes of the shepherds. It was not the prejudices of the people on Sir John's estate alone, which he had to encounter, but those of all the gentlemen of the country, who attributed the losses not to the true cause, but to the climate, and the impossibility, as they conceived, of sheep living when exposed to the weather in such a region. To these arguments were unvariably added the trite one which has since been so frequently made use of to discourage sheep-farming, that the districts would be depopulated, and that a valuable and hardy race of men would be forced to emigrate to foreign countries. But Sir John was not to be easily turned from his purpose, while he foresaw the prodigious advantage which would be derived by the country at large, as well as by himself, if he succeeded in proving that sheep would live during the severest seasons on the mountains of Ross-shire, when properly treated. And although the sums of money which

which he lost, when trying the experiment on his own account, were very considerable, he determined to persevere, until he should be able to prevail on some skilful and active man who understood the business to settle on the estate. Sir John had been in possession of his farms for seven years preceding the year 1781 or 1782, when he gave them up to Mr Geddes, who resided at Tummel Bridge in Perthshire, and had a sheep farm on the estate of Mr Stuart of Garth. To Mr Geddes Sir John offered the most advantageous terms in order to induce him, not only to take the farm, but to come and live upon it. Fortunately the commencement of sheep-farming was committed to a very sensible sagacious man, who understood the business thoroughly, and saw that the country had no natural impediment to prevent sheep from thriving as well in it as they did on any of the hills of Scotland. But Mr Geddes had at first to struggle against the prejudices of the people, which were inveterate against the new system of pasturage; and as they were with much difficulty restrained from open hostility, while Sir John had the farm in his own possession, it is not a matter of wonder, that the spirit which had continued so long pent up, should burst into some acts of violence upon their supposing the restraint removed. Accordingly the most wicked and flagrant depredations were committed on Mr Geddes's flock; numbers were shot, and droves were collected, surrounded, and forced into lakes and drowned. Some of the persons concerned in these abominable acts of violence were discovered and brought to justice, and this measure put a stop to the acts of cruelty by which the deluded people had chosen to express their discontent. Mr Geddes persevered and succeed-

ed so well, that his son took a renewal of his father's lease, with considerable additions to the farm, and still continues to occupy extensive tracts of ground on the Balnagown estate. It is believed that Mr Geddes was the first sheep farmer who settled in the north of Scotland*.

Soon after Mr Geddes settled in the north, Mr Cameron, from the neighbourhood of Fort-William, took a farm on the highland part of Mr Munro of Culcairn's estate, in Ross-shire, and in addition to it took from Sir John Ross a lease of the forest of Freevater, as a range for wether sheep. About the same time, sheep were introduced into the properties of several gentlemen on the west coast, and were found to be sufficiently hardy for withstanding any severity of climate, while they had a sufficient quantity of food. Mr Mitchell from Ayrshire took a considerable tract of ground from Mr Davidson of Tulloch, which he stocked with sheep, and being a very sensible and intelligent man, and perfectly well skilled in the business, his practice was of great use in the instruction of others, and in diffusing the benefits of the new system of pasturage. About the year 1790, Mr Macleod of Geanies, who had a lease from the commissioners of annexed estates of a farm on the Cromarty estate, near the coast of Lochbroom, having found, that, although very low rented, it turned out to no account whatever under a black-cattle stock, determined to try what sheep would produce, and accordingly obtained from Perthshire a parcel sufficient

* The farm which Mr Geddes occupied was in the county of Sutherland, bordering on Ross-shire.

cient for his purpose, and a young man to manage the business, with one shepherd. Finding, that the farms which he had formerly held on the Balnagown estate, and which had been under a sheep stock since he had given up his lease to Sir John Ross, was to be let, with additions of some ground in the neighbourhood; he took a nineteen years lease of it in the year 1791, and thus embarked in a very extensive concern.

Strong symptoms of opposition to sheep-farming began to appear about this time, among the lower orders of people, while the gentlemen were beginning to perceive its advantages, and had resolved to give every encouragement to sheep farmers to settle among them. Those who held farms in the low country, had been accustomed to labour the ground chiefly by oxen, of which they kept great numbers, quite disproportioned to their farms, and which were grazed on the hills, during four months of summer and autumn, for the trifling sum of one shilling per head; and this easy rate tempted them to keep a much greater number than they could properly maintain during winter. On the other hand, the highland tenants who undertook to graze the oxen for so low a price, were obliged to overstock their miserable pastures before they could make any profit. When the value of the hills began to be discovered, it had the effect of raising the price of feeding low country cattle to half a crown, and from that to five shillings for the season, and very soon the cattle were entirely shut out from the hills of this country, and they were sent to those of Sutherland. These circumstances induced the lower classes inhabiting the low country to make common cause with the dispossessed Highlanders; and at the unfortunate time

when the spirit of revolution and revolt was fast gaining ground over the whole kingdom, an open insurrection broke out in Ross-shire, in the summer of 1792. As a first step towards the reform of pretended abuses, a large mob met at an appointed place, which was fixed by open proclamation at the church doors. The mob proceeded to collect and drive from the country all the sheep which had been brought to the different farms within the limits of their progress. The gentlemen and magistrates of the county were not inattentive spectators of this business; but having obtained the aid of a small military force, they proceeded against the insurgents, who had collected above ten thousand sheep, and driven them from their pastures, to a considerable distance, with the view of taking them to the county of Inverness, and leaving them there to stray, or be driven further by the people of that county. When they saw the soldiers, they were quickly dispersed without any bloodshed. Some of the ringleaders were seized, and tried at the circuit court, for the part they had taken in these illegal and unwarrantable proceedings. The firmness with which it was met, completely quelled the spirit of rebellion amongst the people in general, who soon discovered, that they had been misled by artful and designing men, to accomplish their own purposes. From that period, the sheep farmers have met with no interruption in the management of their concerns, and the system has spread to a most surprising extent in a very short period of time.

That sheep-farming has been beneficial to the public, as well as to individuals on whose estates it has been established, there can be no difficulty in proving. Those

Those who have traversed the country know, that on the west coast it is much intersected by arms of the sea, and that in a very few instances, there is but a small space between the edge of the water, and the bases of the mountains, capable of being cultivated. The hills in the inland parts are divided by small and narrow glens, through which the rivers and small streams take their course to the Atlantic or German oceans. It is on the shores of the arms of the sea, and on the banks of the rivers, that the whole population of the Highland district resides. Very little corn was ever raised on the glens amidst the hills, or on the narrow flats along the sea shore, although much labour was annually expended in attempts to make it succeed. The torrents of rain which were poured from the clouds, as they came into contact with the mountains, generally destroyed the hopes of harvest, long before the corn was ready for the sickle. The chief, if not the only support which the people had, was derived from their cattle; and it is an undeniable fact, that the Highlanders in general did not, one season in three, raise as much corn as served their families with meal, and that they were obliged to have recourse to their neighbours in the low country for that necessary article. Some of the valleys in the parishes of Kintail and Lochalsh were much more productive than any others in the Highland parts of the country, and the inhabitants were more independant of supplies from the low country. But if the valleys were devoted to raising winter food for their black cattle, the people would have turned their possessions to much better account, by not only saving the lives of their beasts, but improving the breed of cattle. Grain never having

ing been raised in quantities nearly sufficient to answer the demand, before the introduction of sheep, the Highlanders had nothing but their black-cattle stock, some miserable horses, and a few goats. From the extent of ground in their possession, it might have been supposed that the people could have reared as great a number of these animals as would have enabled them to pay a fair rent, and be themselves perfectly at ease. But the fact was otherwise. The narrow glen was occupied by a number of people, each of whom paid a trifling rent, according to the size of the patch of arable land he possessed, and on this patch he had to raise not only bread for his family, but winter provender for his cattle. The hills which bounded the glen were generally occupied in common by all the townships on the banks of the river which flowed through the glen, and were considered in no other view than as an appendage to the arable land. It is evident, that if any of these small tenants reared a greater number of cattle on his summer pasture, than what he could maintain during winter, he was subject to certain loss; for it is a fact, that in a very few situations only, any part of such a stock could be saved on out-door pasture, without hand-feeding; and from this circumstance, the people were under the necessity of selling in autumn and beginning of winter, for any price, whatever number of cattle they might have more than what their stock of straw and hay could support through the winter. Although the hill pasture might perhaps be capable of carrying, during summer, a greater number of cattle than the people to whom it belonged could put upon it of their own, the surface, in their way of management, was of very little

value

value to the proprietors. Owing to this, the people were induced to take cattle to be grazed from their low country neighbours; and to show of how little value summer grass was esteemed at that time, they exacted only one shilling for grazing an ox or a horse during the season. While the glens and hills attached to them were occupied in the way just described, it was impossible that improvement of any kind could proceed. If one man had the whole of one side of a glen, and the hills attached to it, he might lay down a system of cultivation, by which a greater quantity of winter provender might be raised, and part of the hill-pasture saved, for wintering such cattle as could bear standing out. The hay and fodder of other sorts might be reserved for such cattle as were too young or too weak to bear the buffets of winter storms; a better and a larger stock than what a multitude of small tenants could have, would also be reared. This is certainly the only mode by which the Highland districts could have been improved under the black-cattle system, and it is equally liable with sheep-farming to the objection of depopulation. Of the absolute inability of a number of small tenants to pay an adequate rent for a tract of ground, and of course to make it produce the utmost it is capable of, it may be proper to give an instance. I select one from the Balnagown estate, of which so much has already been said. Three small farms on the banks of the river Oikel were let to nine tenants, about forty years ago, at nine pounds Sterling of rent, that is, each tenant paid one pound. They possessed a hundred acres of meadow on the banks of the river, and considerable tracts of hill lying to the westward of their possessions, which afforded good

good heath pasture. They had also a pretty extensive tract of moor and moss, in which there was a great deal of coarse pasture. By degrees, the rent of the farm was doubled, and at last it was brought to L.30, which was considered so enormous by some of the people, that notwithstanding the attachment which Highlanders are known to have for the spot where they were brought up, some of them relinquished their possessions, and left them rather than be subjected to so unconsionable a demand of L.3 : 6 : 8 each. These farms now make part of an extensive sheep walk, and are considered by the tenant to be worth L.100 per annum. Had they continued to be occupied by a black-cattle stock, it would scarcely have yielded ten pounds in addition to what the small tenants paid for it latterly. It is very probable that by introducing fine woolled sheep, a still higher rent could be given. It cannot be doubted that a much greater proportion of animal food is raised on the same space, since the introduction of sheep, than was produced under the former system of management; and the great produce of materials for the woollen manufacture, which never before existed, exclusively belongs to the new system. Black-cattle are by no means banished, but they are restricted to those pastures that are not well adapted for sheep, and the whole produce of the meadows in hay and straw is reserved for feeding them in winter. A number of cattle, fully equal to the demand for them, is still reared, and as the breeds have been improved, and more attention is paid to rearing and feeding, it may safely be asserted, that, by the introduction of sheep-farming, the empire has gained an addition of food, equal to the annual drafts from the whole stock of

of sheep introduced, besides an immense supply of raw material for the woollen manufacture. And as this has been obtained from the highest mountains, from deer forests, which were formerly perfect deserts, and from the hills which were occupied in depasturing the oxen of the low country for a few months, while they were left waste for the rest of the year, the profit which the nation has derived is almost incalculable. And notwithstanding the gloomy prospects held out by idle speculators, whose sole object seems to be to irritate the minds of the people against a change which is necessarily taking place, and will be effected in spite of every clamour, the population is becoming more industrious, and more useful. At the commencement of sheep-farming, the population was certainly very considerably reduced. There are some districts still too populous for improvement. The melioration of the Highlands of Ross-shire is only advancing. Although the increase of rent within the last twenty years has been very considerable, there are still many important changes necessary, which may be expected to be made by skilful and intelligent men, who may be attracted to the country, on account of the overstrained rents of the more southern sheep countries; and the value of estates may be raised to an amount of which the proprietors have at present no conception. But I venture to give them warning, not to be in a hurry to obtain the utmost rents which their estates may be supposed capable of yielding; and to be very cautious in their choice of tenants. We ought all to consider that our country is at a great distance from markets; and that there are a variety of circumstances which render our properties of less value than those

those farther south. It is a duty we owe to ourselves, and to those who may succeed us, and indeed to the public, to recollect, that it is only the temptation of moderate rent that can induce men of substance, enterprise, and skill, to settle amongst us.

SECT. 2.—FARMERS.

ALL our native farmers (with the exception of a very few, who have, owing to particular circumstances, been spurred on to exertions avowedly not suitable to their inclinations) have proved themselves to be totally unfit for occupying the land. Many gentlemen have tried them with moderate rents, and every practicable encouragement: but the more they were indulged, the more negligent they became; and when high rents are put upon them, they become desperate, and look to smuggling as a better resource for paying them, than improving their farms. Such persons, natives of the country, as have had some education, and a little capital, and have become farmers, are displaying great exertions, and on such a scale as admits of their being beneficial. Their example, if example can do good, is more likely to entice the lower orders to follow a good system of management, than any inducement which could be held out. But granting that every native farmer has inclination, abilities, and capital ready to bestow on his farm, he has nothing to induce him to follow his inclination. When a man launches a capital into

into any speculation, he does it with the prospect of its returning to him with some addition. In the case of a Highland farmer there can be no such prospect. From a small farm of ten or twenty acres, let him cultivate it as he will, he never can expect such profit as would repay him for bestowing his whole attention to so trifling an object. From this consideration it appears evident, that a Highlander would be materially injured by being confined to a small farm, while he felt an inclination for improvement, or exertion, with the view of increasing his fortune. It may be argued that small capitals ought at first to be employed on small objects, and that as the former are augmented, the others may be increased. But should the system so often recommended for keeping up the population of the Highlands be followed, and the whole country be laid out in small farms, larger ones will not be procured; at any rate the supply of farms will be totally unfit to answer the demand. At the present time there are more candidates for large farms than can be supplied. This being the case, what would be the situation of the country, were the numbers of candidates to be increased an hundred fold. It is not easy for a man to change his profession, after he has been once established in any particular line of life; and it would be cruel, perhaps, to put any limits to exertion. But to confine an enterprising Highlander to a few acres of land, and pronouncing this to be sufficient, not only to support himself and his family, but to provide for the wants of others, is like every other scheme with which the public has been amused for increasing the population of the Highlands. When people are really wanted, it is very easy to procure them. Exhibit employment, good

good wages, and food; and men, women and children will start up like mushrooms. Crowd the land with occupiers, and native spirit will sink into idle and perhaps depraved habits, out of which it never can be raised. Distinctions in rank, must, for the sake of society, be maintained. Thanks be to God, there is nothing in our constitution of government, which prevents the meanest peasant from rising to the highest honours of the state. But talents must be left to find their own way. They cannot be forced. Many speculators on Highland population seem, however, to have presumed, that all the inhabitants of the Highlands must necessarily be raised out of the labouring class, and made farmers, in order to save the country from ruin. By proper management, and by bestowing land for the purpose, fit for nothing but crofts, a great many people might perhaps be retained. But to make a general system of small farms, would certainly keep a great number alive, though the population would become comparatively useless, as it is now, its whole exertions being applied to supply itself with food, with little or no prospect of having any to spare for the labouring and manufacturing classes. In such a state of things, a season of scarcity would be attended by the most deplorable effects. Notwithstanding the numerous theories which have been published, recommending not only the retention of the present population, but its increase, we find the same practice going forward, which would have obtained, had they never appeared uselessly to agitate the public mind.

A considerable number of farmers from different parts of the south of Scotland have settled in Ross and Cromarty-

Cromarty-shires; and from the improvements they have made, it is probable that ere long the whole arable lands of the counties will be possessed by farmers from the improved districts of the kingdom.

SECT. 3.—RENT.

Of late the rents of estates in the north have greatly increased. The additional rents given by native farmers have been derived from the facility of illegal distillation, and the rise in the price of spirits, and partly from the fair prices which, till the last year, have been got for black-cattle *.

Notwithstanding the rigorous measures of the Excise officers, very few instances can be found of a native farmer relying on the produce of his land for paying his rent. Numerous examples are to be found of the greatest part of the land being allowed to remain waste, from the occupiers bestowing their whole attention upon their stills. It is difficult for any one not daily accustomed to see the proceedings of the native farmers, to imagine it to be possible for them to proceed as they do, and be able to pay their rents, or even to subsist and clothe themselves and their families.

Rents

* Since this went to the press, there has been a sudden and brisk demand for black-cattle, and the prices of sheep have greatly increased; black-faced wethers having sold at Falkirk for twenty-seven shillings.

Rents are now chiefly paid in money, but there are leases still subsisting which direct the rents to be paid kind. Services are, in many instances, exacted, particularly the furnishing of peats. It is a matter still in dispute, whether a money rent, or one in kind, is most advantageous, both for landlords and tenants. When prices are low, a money rent is safest for the landlord, and most convenient for the tenant. When rent is paid in kind, and when prices are low, the tenant is relieved, and the landlord gains nothing. But when the prices start, the landlord's profit becomes considerable. If prices were sufficiently variable, the rent in kind might probably render the balance pretty equal, during a lease, for both parties. Perhaps the fairest mode of levying rent would be, to take the fiar prices of a certain quantity of grain or meal per acre. A tenant can well judge of the capability of the land for which he is to pay rent. A good farmer can tell the probable average amount of the produce of each acre for a series of years. If therefore a bargain be made for the payment of the price of a certain quantity of grain per acre, the balance at the end of a lease would be found perfectly fair for both parties. The landlord will have received the just value of the land, and the tenant have reaped fair and reasonable profit. The chief argument against a rent in kind is, that the tenant always pays the highest rent when he is least able to do it. To this it may be answered, that when rent is paid in money, the landlord receives a less rent, when he is entitled to a greater. And as bad crops are reaped less frequently than good ones; and as an uncommonly fine crop generally comes to balance an uncommonly bad one, it is probable that in the long run

run the gains and losses of both parties will be pretty equally proportioned, by a payment in kind.

When we consider the various heavy taxes to which farmers are subjected, we cannot help being surprised at the rapidity with which rents have been rising. The rise in the price of corn seems to be balanced by the increased amount of expences. We cannot look to any other cause than competition for the great demand for farms*, and landlords ought therefore to be very cautious in accepting offers of rent. A substantial farmer will never offer more than he is sure he can pay. One whose circumstances are not good, will out-bid every other. The one has nothing, the other something to lose. The one desires to improve his fortune, the other to attempt a desperate push to make one.

Arable land is let at from 10s. to 30s. per acre. In the neighbourhood of Dingwall, some fields are let as high as L. 3, 3s. In the immediate neighbourhood of Cromarty, the land, which is very rich, is let at L.2, 10s.

Grass land is let for the season, from the middle of May till November, at from L.2 to L.3 per acre. There is no fixed rule for hill-grazings for cattle; but sheep farms are taken according to the number of sheep they are supposed, or known to be capable of supporting throughout the year. The sheep farmers who first settled in Ross-shire pay about 1s. per head; some of them, I believe, not so much. The value is now

* I have been informed that the competition in the south of Scotland has become so great, and the rents consequently so high, that many farmers prefer having only five per cent. on their capital out of land, to receiving that interest without any trouble.

now generally estimated at from 2s. 6d to 4s., according to the quality of the pasture, and the safety of the wintering ground. Land fit for carrying cheviot sheep will always fetch the highest rent.

SECT. 4.—TITHES.

THE mode in which the clergy are provided with stipends, is the same all over Scotland; and as it has been detailed to the Board by several surveyors, it becomes unnecessary for me to repeat the information already obtained.

SECT. 5.—LEASES.

THE usual duration of leases is nineteen years. Sometimes they are granted for twice that number. These numbers are purely arbitrary; no good reason can be given for their having become customary. The shortest leases are for five years. For improving tenants, nineteen years is too short a period. If a farmer begins with fallow, and follows a rotation of six or seven turns, with a nineteen year's lease, he will be removed just at the time the land has begun to yield him a good profit. The entry to all farms is at the term of Whitsunday. At that term, the tenant occupies the houses and grass lands, and as soon as the outgoing tenant has removed his last crop, the new

one takes possession of the arable land. In some cases, an outgoing tenant possesses ley-ground till the month of August.

SECT. 6.—EXPENCES AND PROFITS.

THESE are subjects on which I cannot satisfy the inquiries of the Board; and I have only to refer them to the first paragraph under this title in the Survey of Inverness-shire. I shall only remark, that expences and profit must vary according to the local situation of farms, besides being subject to the effects arising out of the nature of the soil, and mode of management. To detail such variations would require a pretty large volume, which could not be drawn up without a great deal of trouble; and the contents, however accurate, probably would not, after all, be very satisfactory or useful.

CHAP. V.

IMPLEMENTS.

The plough which is used by the common people, is an extremely awkward imitation of the improved implement used by the best farmers. But it is so ill calculated to turn up the ground, that the person who holds it experiences more fatigue in twisting and turning, and pushing and pulling it, than the horses and other cattle employed in the draught. The plough commonly used by the better sort of farmers, is that constructed after the well-known model of Small's plough. It is made as light as possible, consistent with the strength required, and performs its work very neatly when tolerably well managed. Two horses are employed by our best farmers to draw a plough; but the country people employ cows, oxen, and horses, often in the same team, to the number of six or eight. Harrows are made after the models approved of in the best farming districts of Scotland.

Rollers are commonly made of wood, generally solid. On stiff land spiked rollers have been found very useful for breaking down the clods.

Drill machines are used by some farmers from East Lothian, who settled in East Ross some years ago.

Double

Double sowing and rolling turnip drills are getting into general use. This implement is the most convenient and useful one employed in husbandry: it performs its work to perfection.

Scufflers, and horse-hoes, for cleaning out turnip drills, are in use everywhere.

Thrashing-mills have been erected on almost every considerable farm, and many of them are turned by water. There is nothing new in the construction of our mills.

Single horse carts are beginning to be used on farms where the ground is level; but double horse coup-carts are in general use.

As all the implements used by our best farmers are made from the most approved models, which have been often described to the Board, it is unnecessary to enter into any more particular detail.

CHAP.

CHAP. VI.

INCLOSING.

THE native farmers have a great aversion to inclosures, as they prevent their cattle from ranging at large, after the crops are brought home. Every large farm is inclosed, or about to be so, either with hedges, where the soil is adapted for them, or with stone dikes. When a stone dike is built against a bank of turf, it is called a single or face-dike, from the circumstance of its being a fence only on one side. Dikes constructed entirely of stone are called double dikes. These last, when pinned up with lime, are by far the most substantial, lasting, and economical inclosures; but they are not by any means ornamental. Double and single dikes are made at the same expence; and cost generally from one shilling to one shilling and sixpence per ell, according to the distance from which the materials must be carried. The management of hedges is not well understood in this country. They are allowed in some places to grow open and awkwardly; and where they appear to have been trimmed, we find them for the most part either open or much abused. I have said that the native farmers have an aversion to inclosures; and I may add, that such of them as are convinced of the usefulness of in-

closures, are too lazy to divide their farms, even when they have it in their power to do it by agreement with their landlord. Since I have mentioned the laziness of the Highlanders, it may not be improper to notice what Dr Robertson says on the subject, in his survey of Inverness-shire, in the chapter respecting inclosures.

Dr Robertson points out with sufficient clearness that the Highlanders are really indolent; but he says that they are forced to be idle by their landlords. "It is also alleged," says the Doctor, "that a certain degree of indolence and aversion from labour is constitutional to this race of men. The justness of this charge, I can hardly allow. We find them as active when employed in the quality of servants; we find them fully as intelligent; we find them more hardy than persons of the same class in the southern counties; and will not men exert themselves as much to procure subsistence and some of the conveniences of life for themselves and their families, as a hireling does to earn his wages? No man who knows the feelings of a parent will hesitate a moment to answer this question by a strong affirmation."

I have a pretty large family, and I trust that I have the interest of my children as much at heart as Dr Robertson could wish, yet I have no hesitation in pronouncing a decided negative in answer to his question, in so far as regards the Highland *farmers*. Though a singular one, it is a fact, that every one of the Highlanders, except those who have some connection with the soil, is active and even enterprising. If he cannot find employment at home, he travels hundreds of miles to seek it. There are not more hardy labourers in the world than Highlanders at piece-work. They are not in

in general neat-handed, but they very soon acquire expertness in any kind of work they engage in. But look attentively to the proceedings of a Highland *farmer*, and a very different description will be found necessary for his habits. Until he gets his seed sown, he is as active as a man can be. When that business is over, he goes to sleep, until roused by the recollection that he must have some means of keeping himself warm during winter. He then spends a few days in the peat moss, where the women and children are the chief operators. He cuts the peats, and leaves them to be dried and piled up by his family. Whenever the peats have been brought home, another interval presents itself for repose, until the corn is ripe. During the winter, unless a good opportunity for smuggling occurs, a Highland farmer has nothing to do but to keep himself warm. He never thinks on labouring his fields during mild weather, or of collecting manure during frost; nothing rouses him but the genial warmth of spring. I cannot reckon how often I have seen Highland farmers basking in the sun on a fine summer day, in all the comforts of idleness. I have asked them, when I found them in such a situation, why they were not busy hoeing their potatoes—"O! the women and bairns do that," was the answer. I would then ask why they did not remove the heaps of stones, which I saw on their fields, or conduct away the water which rested on them. They would answer that they did not know where to put them; or, that they did no harm; or that they had been there so long, that it was not worth while to stir them; and that the water gave sap to the land; with many other answers equally absurd, and dictated by nothing but what must be considered constitutional

constitutional sloth. During his leisure hours, a Highland farmer will do nothing for himself; but hire him to work, and he will become as brisk as a bee. He will never go to seek work; it must be brought to him. There are many, however, who will absolutely refuse to work at all. The true reason why Highlanders are so fond of distillation is, that it costs them little labour, and brings them what they conceive to be profit, although the most successful smuggler, by putting a proper value upon his time, would find that he is a very great loser. When a Highlander *must* work, he exerts himself nobly. When he has the pleasure of seeing some patches of corn growing, he reflects with comfort, that it grows to feed himself and his family, without his interference, and cares no more about the matter. Is it not, therefore, sound policy to place the Highlanders in a situation where they will be compelled to work? I grant all that Dr Robertson says of their industry during seed-time and harvest, however ill it may be applied to prove that a Highlander can work. I do not deny their ability to work when they choose; but I deny that the cause of their indolence at other times is to be found anywhere but in their own natural disposition. Instances are everywhere to be found in which Highland tenants have had, and have still long leases, without having altered their habits.

CHAP.

CHAP. VII.

ARABLE LAND.

SECT. 1.—TILLAGE.

It is quite unnecessary to describe the modes of tillage practised by the great body of Highlanders. Their defects are sufficiently known. Among our better sort of farmers, we find a very perfect system. Ploughing is executed by the best implements, drawn by a pair of horses or oxen. The latter, however, are not much in use, chiefly on account of the slowness of their pace on uneven or hilly ground. The horses are selected with great care, and of late, a great desire has been shewn for a dash of blood in those destined for labour. That horses having half blood, or even more, work with greater spirit and dispatch than the common cart breed, has been proved beyond a doubt. Almost all our great farmers breed horses, a stock which promises to be very profitable.

Ploughing in autumn and during winter is universally practised by our best farmers. Several have found much advantage in breaking up ley ground at

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an early period of the winter. During wet weather, when other open soils cannot be laboured, grass land can easily be ploughed without poaching. By this practice, much time is saved in our moist and uncertain climate. Besides, there can be little doubt of the effects of frost being beneficial, in assisting to break down the turf. Land which is to be prepared for potatoes and turnips, or for fallow, is always broken up as soon as the weather permits after the harvest is over. In spring it is cross ploughed, by which means the soil is completely broken, and the harrows, which are then applied, get a sufficient hold of any weeds which may be in the ground. Land is commonly prepared for turnips by one ploughing in autumn, and two in spring, besides what is required for opening the drills, and spliting them again for covering the dung. A double harrowing is given between each ploughing after the second. But when the land is very foul, a greater number of ploughings are given. Rolling is always practised after grass seeds are sown, and on other occasions, on light lands, when the weather becomes very dry and scorching. When corn seems to be attacked by grubs, which does not very often happen in this country, the roller is applied with good effect. Scarifying is not practised nor does it seem to be necessary, while we are so careful in stirring and clearing the land by means of the plough and horse-hoe. The breadth and height of ridges depend entirely on the nature of the soil; being made broader and flatter on dry soils, than on such as are heavy and wet. Horse-hoeing is invariably practised on the turnip and potatoe crops, which are always drilled. Fallowing is much practised on strong lands, chiefly as a preparation for wheat;

wheat; always when land is very foul. But on land that has been once well cleaned, it is seldom found to be necessary; the preparation for turnips, and their subsequent treatment, being found sufficient to keep the land clean and in good order.

Different farmers follow different courses of crops; and indeed in the present state of the country, this is of great importance when the cause is known. Perhaps in no part of the kingdom is greater emulation to be observed than among the farmers of the north. They are all in fact studying agriculture by experiment, and even those who have grown grey on their farms, shew a great desire for improvement. Every one tries the rotation which pleases his fancy most, and we may hope to see one uniform practice more firmly fixed in consequence of this, than could be expected by any other means. There are however, some general rules pretty well established. Grass seeds and clover are sown with the corn crop which succeeds turnips and potatoes, which is either spring wheat, oats or barley. The latter is the favourite crop, but from the demand having become very trifling, it has been in a great measure given up, and spring wheat substituted on lands fit for it, and potatoe or other oats on the lighter soils. Oats most commonly succeed grass; after them we sometimes have turnips again, but more frequently peas, or a second crop of oats is sown. The latter practise is in general hurtful, but when a field has lain very long in grass, it does not seem to do much harm. I have seen some instances of peas succeeding oats, and barley succeeding the peas, and after them turnips.

I believe that I shall perform a greater service to the country,

country, by making a few general observations on the tillage required for the different crops in detail, than by describing the rotations now used by different individuals. It is in the management of each species of crop that any style of farming can be discovered to be good or bad.

SECT. 2.—WHEAT.

It has been already mentioned that fallow is the most common preparation for wheat. Drilled beans have been tried, and are, when they succeed, the best preparatory crop. A few individuals persevere in sowing beans, but others have relinquished them, chiefly on account of our climate being defective in the indispensable requisite for ripening them, viz. a due degree of heat of sufficient endurance. Frost usually attacks this crop at an early period. Lime is laid on the fallow ground, sometimes with, and sometimes without manure. Dung, however, is always applied for wheat after fallow, when lime is not necessary. The season for sowing is in general thrown back too much; the seed not being committed to the ground sometimes till the month of November. In this climate, especially, the seed should be sown so soon as to enable the blade to get stout before frost sets in. There is great diversity of opinion among farmers in all districts, respecting the propriety of early and late sowing. It is a well known fact, that, when a plant becomes too luxuriant, the

the seed is never proportioned in bulk to the straw. Our climate is so uncertain that it is perhaps impossible to fix the period most proper for sowing winter crops. But as the luxuriance of wheat may be safely checked in spring, by putting sheep upon it, and as it is certainly of importance that the roots should be well grown, and firm in the ground, that frost may not have the effect of throwing out the plants, it may perhaps be most advisable to sow it between the middle of September and the middle of October. In all cases, the earliest varieties of corn should be selected in this northern region, in order that the driest weather may be taken advantage of during the flowering season. Our best weather is generally prevalent in June and July, in which last month all corns of the early sorts come into flower. Heavy rains, during this state of corn, do infinite mischief, by preventing the proper fecundation of the grain. In short, the importance of observing our climate, in all seasons of the year, is great, and an attentive observation of it will always secure good crops. Straw, indeed, is an important object with a farmer in the Highlands; and with every one at a distance from other sources of manure than those which his farm itself presents. This is the reason why we observe late corn of every kind in general preferred. The early varieties afford the least straw, and the most seed. They have been accused too of being liable to be shaken. But notwithstanding this there are few instances in which the returns from early varieties have not proved abundant. I have often observed great loss sustained from the shaking of late varieties, which are often found in the field during the first blasts which usher in our winter storms.

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An early variety of spring-wheat has found its way to this country and has been used successfully by Mr Mackenzie of Hillton, who informed me that he sowed this grain in the month of April and reaped it in the month of September. This gentleman has also tried the bearded-wheat, and found it answer extremely well. He sowed it in the first week of May, and reaped it about the middle of September. But early varieties of corn are attended with some disadvantages, besides being apt to shake. The grain, if lodged or wet in the stook, is more apt to spring than any other sorts, and being early ripe, it becomes, without due care, a prey to birds. It is a common practice to cut potatoe-oats a little before they become fully ripe, which prevents any loss being sustained from a shake. But early corns are so productive in seed, that the loss by shaking is seldom perceived, when the produce is compared in the granary, with that of late varieties; and the other sorts are certainly not so apt to lodge, as the tall growing late ones. Wheat of any sort sown in proper time will in most seasons ripen well soon enough. But as the weather is uncertain in autumn, it is not always practicable to get wheat into the ground, before it is necessary to attend to other important harvest work. It is a very singular circumstance, that difference of climate should alter the appearance of corn, in respect to the shape of the seed. English corn is in general rounder and plumper than what is grown in the north; and when sown here it never fails to elongate. Change of seed has been thought to be necessary from time to time. In some cases however it is not necessary; and this depends both on climate and soil. A discerning farmer will regulate his changes properly, and if he begins

begins on a new variety, or one that he has not been accustomed to, he will take care to make himself previously acquainted with the best mode of cultivating it. I have not unfrequently seen a farmer give up an excellent variety, on account of its not succeeding with him, when the fault was assuredly in the cultivation and not in the grain. I know one farmer who gave up potatoe-oats, because he found that a second crop on the same ground was not so good as the first.

Although apparently a very simple matter, it requires a good deal of practice to be able to judge of the quality of seed. The colour of wheat differs in its varieties, and it may happen that a person not acquainted with each variety may be deceived by the colour. White wheat, if it has by any accident, or carelessness, got heated in the stack, or on the floor of a granary, acquires a reddish cast, and bad white wheat may be thus taken for good straw-coloured, or even red wheat. The taste is sometimes applied to detect bad wheat; if it tastes sweet, it is bad; but it may have been heated to such a degree as would spoil it for seed, although it has had no tendency to spring, so as to cause the taste to be sweetish. Sometimes heating occasions a bluish or blackish colour, which is always a bad sign. Weight and plumpness are the best criterions, if these be joined to the bright straw colour, which most sorts of grain have; and if on being broken, the inside exhibits a fine white colour, the seed is good. Shrivelled seed is often improperly rejected; for if the wrinkles go across the grain, it is good, but not if they are lengthways. A bushel of good wheat ought to weigh 57 lbs. of barley, 50 lbs. of bear, 44 lbs. of oats, from 37 to 39 lbs.

The advantages of pickling wheat are now generally allowed to be great. But little attention is paid to the separation of small and light seeds, which are always faulty. Corn intended for seed should be well winnowed, and when the seed is thrown into the pickle, that which floats should be removed. Many modes of preparing seed for the purpose of preserving both it and the plants which spring from it, from the attacks of vermin, have been proposed. But these are for the most part useless. It is however of importance to get seed to spring as soon as possible after it is put into the ground, and steeping may on that account be useful. Some of the best farmers in the counties of Berwick and Northumberland steep barley before sowing it, and also many English farmers further south. I have not the least doubt of the practice being beneficial. Peat or wood-ashes, and lime are the best powders for drying the grain before sowing. But it is doubtful how far steeping may answer for wheat when carried further than the common pickling process. The quantity of seed sown in an acre depends chiefly on the nature and condition of the soil. But it also depends on the climate and the variety of corn sown. If the soil be rich, and the variety of corn apt to stool, it must be sown thinner than on the poorer lands. That climate influences the quantity usually sown in different latitudes, may be seen by the following account from the annals of agriculture, which I have found marked in some of my notes, in bushels.

In Egypt are sown, 1.86.—in Palestine, 1.91.—in Greece, 2.17.—in Murcia, 2.33.—in Sicily, 2.37.—in Italy, 2.40.—In Castille, 2.60.—in Navarre, 2.66.—in the

the isle of France, 2.75.—in England, 2.50. to 3.—in Scotland, 3. to 3.50.—in Denmark, 4.

Some varieties of corn require to be sown unusually thick. For instance, the Poland-oat requires about two-fifths more to be sown than potatoe, or any sort of oats which is apt to stool. There is perhaps nothing in the practice of husbandry in the north, in which there is greater room for improvement than the art of sowing. No one ever thinks of asserting, that seed should be irregularly distributed over the ground. On the contrary, when the seed springs, we hear the sowing criticised as having been good or bad, according to the regular or irregular appearance of the plants. It is not enough to leave the uniform disposal of the seed to the harrow. It is necessary, in order to save corn, and to cover the field equally, to be very scrupulous in the business of scattering the seed. Attention and practice can alone rectify the faults of our ordinary sowers. Drilling is a practice of great use where the ground is smooth and free of stones; and there are many situations in these counties where it might be practised. Wheat should be covered to the depth of two inches, or even two and a half, but not deeper, as in that case it grows spindling and weak. If it be not covered at least two inches, it is very apt to be thrown out.

Wheat is not subject to many distempers in this country. Smut is the most dreaded, and the easiest to avoid.

Harvesting is a business usually attended by more hurry than caution in this country, when the weather is not favourable, and by too much carelessness when it is fine. It often happens, from particular circumstances,

stances, that the corn on one part of a field is ripe sooner than the rest. An attentive husbandman will not wait till the whole is ready, but will proceed without delay to cut down his crop as it ripens. All corn, whether clean or mixed with weeds, is tied up into sheaves the moment it is cut. When weedy, or mixed with grass, it would be proper, if the season be favourable, to allow the corn to lie for a short time. At any rate, it should not be stooked too soon, as that will delay the curing or drying. Corn that is weedy, or which has been sown with clover or grass seeds, should never be cut during wet weather; at any rate, never tied into sheaves while wet. This should be particularly guarded against in m[illegible] districts of this country, where the yellow gowan, or corn chrysanthemum is abundant, as this plant, when tied up wet, is apt to dissolve and become gluey, and then to spoil the straw. The ordinary stook consists of twelve sheaves, which have sometimes two hood sheaves placed over them. But in rainy weather, the butt end of these sheaves take in a great deal of water, and they prevent the sheaves below from drying so quickly as they would do if exposed to the air. In this country sudden gusts of wind are apt to overthrow hooded stooks, especially the hood sheaves themselves. If corn be tolerably dry when cut, a very safe way of putting it up is, in little round stacks made of single sheaves, with the butts out, and the top covered by a bundle of straw, in the same manner as the top of a large stack is defended. When built up in this way, the corn is perfectly secure from rain, and, if the stacks are not too high, from wind. I have too often observed great carelessness in handling sheaves. It is

a common practice with the people of this country to lay hold of the ears, and throw two or three over their shoulder. When held to the breast, the corn is still more liable to be shaken. The sheaves should always be held by the middle, grasping a little of the straw along with the band, to prevent any risk of the latter giving way while the sheaf is carrying. It is thought that time is saved by carrying a great number of sheaves at once, but what is lost by shaking overbalances any trifling saving of time. All hurry and confusion ought to be carefully avoided. There is not perhaps any period of the labour of the husbandman of greater importance in all its parts, than harvesting; but it is too often considered, that expedition is the only thing requisite in conducting this most important work.

Some farmers who raise large quantities of wheat, stack it in the form of a large hay rick, but for the most part it is put up into round stacks of the common form and size. Mr Mackenzie of Hilton has adopted a method of stacking wheat similar to that used for peats. He puts it up in the form of a hay rick, or sow as it is called in some places, but in separate parts. By laying the sheaves regularly, he can remove a certain breadth at a time, without disturbing the rest of his stack, or injuring its thatch, and the butts of the sheaves are always on the outside. This is certainly a very convenient method of stacking, as a small or large quantity can be built and thatched at one time, and every hour of fair weather may be employed. Those who have thrashing mills generally make their stacks of such a size, that one may be thrashed during the hours of morning and evening work.

work. In many farm-yards, the stacks are built on pillars, having wood laid from one to the other, so that the air may freely circulate underneath. This is thought to prevent mice and rats from getting into the stacks, but mice are generally brought from the field in the sheaves; and if a farmer be attentive in examining the sheaves in the field before they are carted, he will save more by guarding against bringing home mice, than by any plan for preventing their access to the stacks. This may, however, be effectually prevented, by making the pillars sufficiently high, and coping them with a broad flat stone. The height should be about two feet. It is a very good plan to build stacks with a vent in the middle, as is often practised in this country, when we are under the necessity of bringing home the corn when rather damp. This is effected by building round a sack filled with chaff, which is pulled up as the building proceeds. If, in addition to this, a cross horizontal vent, below the eves, be formed by means of willow or other hoops, a free circulation of air will constantly pervade the stack.

Wheaten bread is more used in this country now than it was a few years ago. The scarcity of oat meal this season (1808) has induced many of the common people to use wheat flour, made by coarse grinding in an ordinary oat meal mill. This they made into bannocks, sometimes with a little yeast, and they seem to be very fond of it. Several of them have expressed to me their fears of their families liking this bread too well, and eating more than could be afforded.

SECT.

SECT. 3.—RYE

Is only sown by the common people, sometimes by itself, but most frequently with oats, for the purpose of making bread when the two grains are ground together. It has been long known to yield a very good spirit.

SECT. 4.—BARLEY.

BARLEY most frequently succeeds to a hoed crop, either turnips or potatoes. This grain requires the land to be in a fine state, and on that account comes very well after these crops. In Norfolk, where the finest barley in the kingdom is raised, great care is taken to bring the soil for it into as fine a state as possible; at the same time, guarding against the land becoming too dry, is a great part of the farmer's business. But the practice in this country, by having the land reduced to a proper state under hoed crops, renders any attention to that circumstance unnecesary, as the land is always ready to receive the seed, after one ploughing in spring. I have myself sown barley on land which had been ploughed during winter, and found it answer extremely well, without a fresh furrow. But this was on light ground. The six-rowed barley, called here bear, which is properly the four-rowed variety, being more early than the two-rowed, is frequently

frequently sown in this country; and as the smugglers do not know the difference, it finds an equally ready sale with barley, properly so called. The common people often sow the two kinds mixed, which, from the different periods of their ripening, and their different habits when under the malting process, is extremely bad management. There are many varieties of barley, some of which ripen early, and some of them late. In importing seed, care should be taken by every farmer to be well informed of the habit of the grain. The variety commonly cultivated here is an early one, and does not require to be sown early. From the middle to the end of April is the usual time of sowing, and sometimes the seed-time is later without any disadvantage.

There is not perhaps much advantage to be expected from frequently changing barley for seed; by which I mean, importing it from the southern counties. It is not so apt to degenerate as some other kinds of corn; and imported seed, particularly that from England, has in some cases been found to degenerate rapidly, while our own variety kept up its value under proper culture. But it is probable, that the grain now raised in this country, was first imported, and degenerated like any other sort, but has at length adapted itself to our soil and climate. What has been already observed under the article wheat, respecting harvesting, applies equally to all sorts of grain. The produce of barley is generally from seven to ten bolls per acre; and sometimes I have heard of twelve and fifteen. The straw of barley is rather coarse, and ought to be given to young cattle, or used in litter where other kinds of straw are plenty. The awns of our barley are very tough, and difficult to remove. Several attempts have been made, but

but without success, to attach some apparatus for breaking them to a threshing mill.

Steeped barley is used in Norfolk as horse-corn. In this country they seldom get it, but in form of a mash, when they have got colds. It is not much used by the people for bread, though it is often seen at the tables of the farmers, and of the proprietors, in the form of *supple cakes*, which are made by mixing fine meal with warm water, and a little milk, and toasting the thin cakes gently.

The stipends of the clergy being paid partly in barley, does not probably arise from its being an article of food, but from the ready sale which it generally meets with from distillers. It is a most important crop in a good rotation, and on this account it must be regretted that so many checks have been given to its culture. Various proposals have of late been made for relieving the Highland distillers from the severity of the present laws. Until the duties shall be levied equally over the whole kingdom, the complaints will never be at an end. The grand desideratum has always been to lay the whole duties on the perfect article. But the difficulties which stand in the way of laying the duties on the spirit, seem to be insurmountable, on account of the facility with which frauds might be committed But it is evident that, if the spirit duty was equalized over the whole kingdom, every distiller would have it in his power to make spirits of what quality he pleased, and our Highland tastes would find no difficulty in being gratified. Although this mode of taxation is very desirable, it appears to be impracticable. To discover a method of levying the revenue effectually, and at the same time to relieve

relieve the distiller from the various vexatious regulations to which he is subjected, both in the Lowland and Highland districts, would be of the utmost importance. It is a principle pretty well established in legislation, to impose duties as much as possible on the consumer. This is not only wise, insomuch that the plan renders taxation lighter, by making submission to it optional, but also, because it operates in encouraging the manufacturer, by removing every obstruction and weight from his exertions. To apply this principle to distillers, seems at first sight difficult. But perhaps it may be well applied by taxing the distiller as a consumer of malt. For this purpose, it will be necessary to separate, by law, the business of maltster and distiller; and to impose heavy penalties on distillers who may attempt to make malt, or fraudulently use unmalted grain, or procure more malt than what may be allowed by the regulation proposed.

Having separated the trades of maltster and distiller, the mode I propose for taxing the latter, as a consumer of malt, is as follows:

When a distiller has determined on beginning to work, he must apply to the head officer of Excise in his district for a licence to purchase malt, for which licence he must pay a duty equivalent to the quantity of spirit he may be supposed able to extract; that is, he is to pay only for the quantity of malt he requires and specifies. Every maltster being still subjected to the regulation and duties already imposed upon him, must be prohibited, under severe penalties, from selling malt to any person not having a licence to purchase. It is thought, that 15s. 10d. per bushel, in addition to the present tax on malt, will be equivalent

lent to all the duties on the still, spirits, and wash; and supposing that a distiller is to use as much malt as will be equal to produce the quantity of spirits already allowed under one licence, he would have to pay, in purchasing his malt, about L. 20757, in addition to the present price of the malt required. A Highland distiller would have to pay about L. 662, or about 13s. per bushel more than the present duty.

By this plan Government would save much expence, and would have a powerful check upon fraud, by inserting in the licence for the distiller to purchase, the name of the maltster from whom he is to purchase, who would forthwith become liable to a heavy penalty if he should sell more malt than specified in the licence. The distiller would be relieved from all the present troublesome regulations, and would be left to work, either slowly or quickly, as he pleased, and to make his spirits of any quality most suitable to his market. Nor would there be any occasion for limiting the quantity of spirit to be made, or for forcing a distiller to make it of any fixed quality. I have been told by a great Scotch distiller, that this plan puts no check on his using unmalted grain. There is often a great quantity of damaged grain in the market, which can only be used by distillers in a raw state. It is proper, therefore, to encourage the consumption of such grain. It will not be difficult to make the distillers pay well for using entire raw grain, since it appears that they are disposed to make a fraudulent use of it.

The following tables may be of use to those who wish to make inquiries into the state of the Highland distilleries.

Amount

Amount of the Revenue from the Highland Collections derived from Licensed Distilleries.

	Duty charged.		
Amount of duty on Highland distillery, for year ending 5th July 1786,	L. 7869	0	0
Ditto ditto 1787,	12,767	2	6
Ditto ditto 1788,	13,448	0	7¼
Ditto ditto 1789,	14,912	15	0
Ditto ditto 1790,	14,843	5	5
Ditto ditto 1791,	16,376	13	9
Ditto ditto 1792,	18,497	5	0
Ditto ditto 1793,	17,160	0	0
Ditto ditto 1794,	16,761	5	0
Ditto ditto 1795,	18,946	11	0
Ditto ditto 1796,	37	17	4¼
Ditto ditto 1797,	18,804	7	6
Ditto Highland and intermediate 1798,	38,448	10	8
Ditto, ditto, and ditto 1799,	26,273	9	7
Ditto, ditto, and ditto 1800,	4485	14	8
Ditto, Highland 1801,			
Ditto ditto 1802,	9589	9	6
Ditto ditto 1803,	20,894	10	10
Ditto ditto 1804,	19,991	4	6
Ditto ditto 1805,	19,201	13	11¼
Ditto ditto 1806,	35,066	4	5¼
Ditto ditto for half year ending 5th January 1807,	15,011	1	8¼
Total,	L. 359,386	2	11¼

Note.—The distillery was prohibited from July 1795 to October 1796, and from December 1800 to January 1802.

An Account of the Expence incurred in charging, securing, and levying the Highland Distillery Duties for the last two years, not including therein the expences of seizures and prosecutions.

N. B.—The most equitable mode of making up this account, appears to be the appropriating to Highland Distillery such a proportion of the total expence of each collection wherein it is carried on, as the amount of the Highland Distillery bears to the total amount of duties.

Period.	Collection.	Total amount of Duties.			Amount of Highland Distillery,			Total Expence of each collection.			Proportion appropriated to Highland Distillery.		
Year ending 5th July 1805.	Argyle,	7821	3	1	210	3	0	4469	15	5½	120	0	0
	Caithness,	2920	11	4	877	19	0	1013	5	3	304	14	0
	Glasgow,	194,984	3	2	2248	4	0	6895	17	8½	79	10	0
	Inverness,	16,842	0	8¾	3435	3	2¼	5321	5	9¼	1086	2	0
	Linlithgow,	162,606	5	5	9927	9	0	5317	3	2	324	12	0
	Perth,	75,721	14	11½	2502	15	9	6480	9	6	214	4	0
										Total, L.	2129	2	0
Year ending 5th July 1806.	Argyle,	7655	2	3¼	827	2	0	4742	0	11	512	18	0
	Caithness,	3227	7	0	1022	13	7½	994	1	2½	314	16	0
	Glasgow,	245,284	9	1¾	4473	18	0	7266	1	11	132	10	0
	Inverness,	20,169	1	4¾	5761	0	0¾	6463	2	3	1846	0	0
	Linlithgow,	188,420	13	5½	18,503	4	3	5688	12	10	558	12	0
	Perth,	84,156	14	3½	4478	6	6	7248	3	7¾	385	12	0
										Total, L.	3750	8	0

It is to be observed, that the amount of Highland distillery includes the duties on stills and spirits, and not the duty on the malt used in distillation.

SECT. 5.—OATS.

THIS is a grain of more real value to the Highlands of Scotland than any other. All the varieties are hardy. The straw is well known to be excellent fodder for cattle; and the grain itself, from its nutritious qualities, enables our horses to perform great labour. As food for the human race, it has long been known to be wholesome and nourishing. But less attention is paid to the cultivation of this crop, than to that of any other, and it is usually grown on worn out soils, as the last crop they can bear, and as the only one which can be ventured after coarse leys. The better sort of farmers, however, pay attention to this important crop; although there seem yet to be some doubts whether it ought to be preferred to wheat in ordinary courses. Oats are certainly best adapted to poor lands, on which they are more profitable than any other sort of corn; but wherever sown, they are well entitled to care and good tillage.

Oats are generally sown after grass of different ages; usually after two years, during which the grass has been cut one, and depastured the other. The older the pasture, the crop is always found to be the richer. Not unfrequently two crops are taken from land which has been long under grass. Many farmers have substituted potatoe-oats for barley, and sow them after turnips and potatoes, with grass-seeds. I have myself followed this practice with different varieties of oats. It has been observed, that the corn crops which succeed turnips, are never so good as those which come after potatoes

potatoes or naked fallow. The cause of this has not been precisely ascertained.

Oats do not seem to thrive well on recently dunged land, nor on that which has had an ordinary supply of calcareous manure.

Barley yields most luxuriant crops on land that has been limed, and so do all the crops except oats. This is a singularity in their habit which I believe has seldom been observed in this country. But this observation must be considered as applying only to soils in which oats have been accustomed to grow well without calcareous manure; for they shew the benefit of laying lime or marl on soils destitute of calcareous matter as much as any other crop. There is no crop which shows the state of the soil, as to cleanliness, so much as oats. After they have sprung, they remain stationary for some weeks, while weeds get on quickly, and overtop them. A farmer who desires to be thought skilful, will therefore beware of sowing oats on foul land.

Oats are generally taken as the last of a course, immediately before a green hoed crop; but in some cases, a crop of peas intervenes, and sometimes flax. The seed is committed to the earth as early after the first of March as possible, though potatoe and Poland oats admit of being sown in April. In ordinary years, we have seen from seven to ten bolls per acre, and about the same return from one of seed, as a boll of common oats is usually sown on an acre. The straw is much valued as fodder, and is extremely well adapted for cattle in the yard. Our horses consume a considerable quantity of the grain, but the great proportion is used in bread and *brochan* by the people. The mode of

of making oat-cakes is well known; brochan is nothing more than water-gruel. Several different varieties of oats have been, and are still cultivated in this country, viz. the common or Angus-oat, the red-oat, the dun-oat, the potatoe-oat, and the Blainslie-oat; the Poland-oat has been tried, but has not been approved of.

The black-oat is still to be seen on some Highland crofts.

The common, or Angus-oat, is very productive in straw, and also in meal; but it is rather late for our general climate. Its valuable straw, and its not being liable to shed the seed, are what recommend it to the attention of northern husbandmen. But its lateness in ripening is a great fault; and when once it gets wet after being cut, it is as apt to shed on becoming dry, as any other variety. The red-oat is recommended by every quality we can wish for in this climate, but it will succeed best on rich soils. It is early, and is neither apt to shed nor lodge. It has not as yet been generally tried. The dun-oat I have heard strongly recommended. Of the early sorts the potatoe-oat is most in culture. On rich land it yields good straw, and plenty of it; but on ordinary land it will not succeed. It is like most early varieties, very apt to shed the seed. The Poland-oat grows strongly on rich land, and is very early, but apt to shed. The straw is rather coarse and scanty, except on rich land, when it is as bulky as that of common oats, but not so valuable for fodder. It is very productive in seed. I procured some from England, last spring, and sowed part on a field which had been four years under grass, and part after turnips. I sowed a small part on thin land that had been dunged. The crop after grass was rich and strong;

strong; that after turnips was short in the straw, but productive in seed, and the crop on the last soil was very short indeed. Mr Middleton informs me that this variety degenerated much with him.

The Blainslie-oat is perhaps better suited to our soil and climate than any other, as it has been known to succeed on very high and exposed ground. I believe it will also be found to succeed after turnips better than any other kind. The red, the Blainslie, and the early Essex-oat, are the varieties out of which we may pretty safely choose. Some people dislike the colour of the first, and the smallness of the last; and it is probable that the Blainslie will at length prevail. The Poland-oat, from the thickness of the husk, is not so liable to grow in the sheaf as other varieties, and on that account may suit a rainy climate; but in other respects it is not at all suited to that part of Ross-shire where the wetness of the climate is most felt, as there the straw is as great an object as the seed.

SECT. 6.—PEAS

ARE justly considered as a very valuable crop, coming between two white crops, the last of which is to precede fallow, or a hoed crop. Our soil in general being dry, is well adapted for them, though our climate is not always suitable. No variety has yet been found sufficiently early for us to depend upon; but on the whole, peas may be called a safe crop on dry land. In this country they are usually sown broadcast, after a single ploughing, but those who have tried them in drills,

drills, have found this method more advantageous. As beans are not safe, peas may be well substituted as a preparation for wheat, by taking them after grass. I believe that peas are thus sown in Norfolk, and some other parts of England. Beans are sometimes sown with peas, partly with the view of supporting them, and partly to insure a crop from the one or the other, according as the season may be dry or wet. Our climate is unsuitable for very early sorts, as they are apt to run too much to straw, and do not succeed well with too much exposure. As peas degenerate and become late, and as good early varieties are important objects, it is surprising, that so little attention has been paid to select and cultivate them. The plan that gardeners follow may be attended to successfully by farmers. They mark off the earliest blossoming plants for the purpose of preserving their seed, and pay particular attention to them. Early varieties of potatoes, and other vegetables are preserved in the same way. The worst thing about peas is the difficulty of curing them in harvest. If the weather permits, they should be spread out on the ground, and turned frequently; and when tolerably dry, they should be put up in ricks in the field, and a little straw laid on the top; and as soon as the weather is fine, they should be carted home and stacked, without being bound into sheaves. This is not practised here, but I have seen it done with the most complete success. The meal of peas mixed with barley meal, is a good deal used by the common people as food. Mixed with whey, it is an excellent food for calves. The straw is commonly given to horses; but may probably be more profitably applied to feed sheep during winter, especially those carrying fine wool, many of which have been introduced into Ross-shire.

SECT. 7.—BEANS,

WHEN they will succeed, are the best preparatory crop for the most valuable grains. They yield an important article in seed, and the straw is also of great value. Unfortunately we cannot depend upon them in this country, on account of the nature of our climate. They have however sometimes succeeded, although they have been for the most part given up. Perhaps they might succeed better if sown on wider drills than those commonly formed. Manure is well bestowed on beans. On fine loam, when dunged and drilled as a cleansing crop, they precede wheat admirably; and if barley was as great an object with us now, as it was once, the finest crops which could be raised would follow beans. But it has been reckoned difficult to get manure ready, and laid out in time for sowing. An active farmer, however, can soon obviate such a difficulty.

Beans in this country are sown rather late. Indeed our winter generally becomes most severe in February, and one year with another it is hardly possible to sow any thing before March; but the earlier beans are sown the better. There is no doubt as to the propriety of sowing beans in drills, as it is of much importance to admit the sun and air to the lower blossoms. Two feet is near enough, and 30 inches will not be found too distant. There are drill-machines made on purpose for beans; but perhaps dibbling by the hand would not be found too expensive, when the correctness with which the seed may be inserted, and the quantity saved are taken into

into account. Both beans and peas have been used for cleaning land, by smothering weeds. But such a slovenly method cannot now be very generally approved. Harrowing, on the appearance of the young plants, may be necessary on stiff lands, and horse-hoeing applied afterwards, as circumstances seem to require. In gardens we always find it of use to cut off the tops of beans; and as this is practised in the field in England, there is no reason for not doing in this country what, at any rate, will not injure the crop. There is commonly much difficulty in harvesting beans, on account of their being late of ripening. They should not be allowed to remain unstooked too long, as when the pods become very dry, they are apt to burst, and drop the seed; but if cut when very nearly ripe, in favourable weather, they are best dried on the ground. Beans are sometimes given to horses mixed with oats, and it is thought that the mastication necessary for breaking them, is of use in bruising the oats, which otherwise would be swallowed entire. What are not consumed in this way are exported. Beans are unprofitable as rough food for stock, but have been used with advantage, in some parts of the kingdom, for finishing the fattening of stock well advanced.

SECT. 8.—TARES.

TARES are not much used; but when they are, it is for the purpose of soiling, for which they are well adapted.

SECT. 9.—TURNIPS.

THIS is our most important crop; on it we depend for bringing forward our young cattle during the winter, for fattening those that are older, and for producing manure. The greatest part of the soil in Ross and Cromarty is well adapted for this crop, to which great attention is paid. The proper soil for turnips is now well understood, and also the tillage which they require. They agree best with light soil. It is the usual practice to plough the land intended for turnips before winter, both for the purpose of exposing weeds, and that the land may become stiff enough to bear a cross-ploughing in spring, so as to be left rough, that the harrow may get a good hold of weeds, &c. Three ploughings are generally given; but some conditions of the soil require more. A considerable interval is allowed to elapse between each ploughing, in order that the seeds of annual weeds may spring, and be destroyed by the next. When the weeds have been gathered, they are usually collected into small heaps and burnt. But it is a more approved practice to cart them to a corner, and to mix them up with lime, and to add them to the dunghill. After the land has been cleared of weeds, it is then thrown up into drill-ridges, and allowed to remain there for a short time, that any seeds of annual weeds which remain may vegetate. The dung is then put into the intervals, and covered up by splitting the ridges. The tops are now flattened by the roller, and the seed sown. But almost every farmer who raises turnips

turnips in any considerable quantity, uses a double machine, which rolls, sows, and covers two drills at once. This machine is now well known.

Perhaps less attention is paid in this country to the preparation of manure than it deserves. Indeed in many instances, when in other respects good husbandry is observed, we find the proper preparation of manure much neglected; and we frequently see dry straw laid on the earth, instead of putrescent dung. Turnips require dung to be in a particular state, in order to raise them in the greatest state of perfection, and I trust that to many the remarks I am about to make may prove acceptable.

On whatever place the farm-yard dung is to be collected, there should be a bed of peat-moss, rubbish, weeds, or the like, laid to a considerable thickness, in order to absorb the liquor that runs from the dung, which is very precious. When peat-moss can be procured at all conveniently, it is by far the most valuable substance for bedding, and may be laid about two feet thick. The dung should be carried out, and laid regularly on the bed, beginning at one end or side, to the depth of two feet, and when frosty weather sets in, whatever was first laid out may be taken up and carried to the field. There it must be mixed, and laid up in a ridge eight-feet broad, and from five to six-feet high. As the ridge proceeds, it is of much use to give it a covering of eight inches or a foot thick of moss or rubbish. In this state it may remain till within a fortnight of the time it is wanted, when it may be turned over in order to mix and break it, and to allow it to heat a little. By this treatment the dung will be reduced to the state most

fit

fit for turnips, which may be known by its being very difficult to lift with the fork, and rather troublesome to take up with the spade. Having for several years used moss in my dunghills, and observed the crops raised with it, I now prefer the mode of using it which I have described, to that of Lord Meadowbank. His Lordship's method has no fault, except that it requires much attention, and considerable manual labour. By laying a sufficient quantity of moss below, it soaks up all the liquor which filters through the dung, and is then brought to the best possible state, for being exposed, when mixed up, to the fermentation of the dung. When no extraneous supply of manure can be got, moss is a most precious addition to the resources of a farm, and is well worth going for to a considerable distance. Farm-yard dung is best applied by being laid in the intervals of the drill-ridges. Should it be desired to apply calcareous manure for this crop, it is best to spread it on the ground before being ploughed for the last time. Perhaps the most economical plan would be, to lay it on the stubble of the preceding crop, by which means it would be thoroughly mixed with the soil by the different ploughings and harrowings. Great attention should be paid to the spreading of the dung in the intervals, that it may be uniform; for owing to carelessness in this business we often see unsightly blanks in the crop.

The time of sowing must be regulated by circumstances. In this country, seed-time usually begins about the 12th of June, and ends with that month. The time of sowing must also depend on the kind of seed. The Swedish turnip requires to be sown very early.

early. I have always succeeded best when this sort was sown about the end of April. The yellow field turnip may be sown much earlier than any of the white sorts, which, by early sowing, no doubt become large, but, at the same time, unfit to stand alternate changes from frost to thaw. It is soon enough if white turnips be sown about the end of June; but as it frequently happens that the first sown seed gives way, it may be proper to sow earlier, more particularly as the white are first used at the beginning of winter, and it may be proper to have them of a good size for storing.

There seems to be no particular preference given to any sort of turnips in this country. The globe and the red top are most commonly sown, though the yellow is gaining ground. The Swedish is a very valuable root, but on account of its nature and its culture not having been understood, it is much neglected. I have persevered in the culture of this root for many years, and have had them frequently as large and as close on the ground as ordinary white turnips. The largest turnips are by no means to be considered the best; a moderate sized root will withstand the rigour of winter much better than a large one. The size of turnips may in a manner be regulated by the quantity of manure given, and the time of sowing. But there is another means of altering the shape, size, and other qualities of turnips, not very generally known in this country, and to which I have been indebted for the superior size of my Swedish turnips; this is transplanting for seed. About the beginning of January, I select from the field the largest and roundest roots, and those which are single stemmed,

stemmed. These are carried off, and after the tap-roots have been cut away, and all rotten leaves removed, they are placed in rows in some spare corner of my garden, and, except the leaves, are completely covered up with earth. When the stems shoot up, they are supported by stakes and straw ropes, and covered with nets to keep off small birds. For the last five years, I have annually transplanted my Swedish turnips for seed, and have found them better and better every year. But the disposition which this root has to form seed stalks, renders the quality of the crop extremely precarious; for, although the flower stems do not appear, the production of the seed-stalk renders the bulb corky. I have still some hopes, that a mode of managing Swedish turnips may be discovered, such as to enable us to raise them in perfection. I intend to persevere for some years longer; and if I find that the careful selection of plants for seed does not remedy the defect too often experienced, (the production of a seed-stalk before winter), I shall relinquish with regret the culture of this valuable root.

No farmer who regards his turnip crop ought to buy seed. Raising it for one's self is so easy, and the certainty of having good fresh seed so satisfactory, that no further recommendation is necessary. I cannot yet say when the transplanting of Swedish turnip should cease, and when they ought to be left in the field to seed. But the effects of transplanting on other sorts, is such as to render them too flat and soft after a year or two; and the usual practice is, to allow them to produce seed in the field every third year, and in some instances, every second year. On the field, the seeds should be taken from the largest and flattest.

The

The state of the ground as to moisture ought to be very particularly attended to, previous to the seed being committed to it. It ought neither to be wet nor dry, but merely damp. No sort of seed suffers so quickly from drought as that of turnips; nor is there any more impatient of superabundant moisture. It is better to sow on dry ground than on wet; and when the seed is inserted deep enough, and well rolled, it seldom fails. But after it has sprung, the plant has enemies, which too often annoy the husbandman, when he thinks himself secure. In this country, the fly, properly so called, has seldom been seen. For my own part I never saw it. But there are other flies and grubs, which often do much mischief. A great many nostrums have been recommended for keeping off these insects, but nothing can be more effectual than promoting vegetation, so that the plant may be quickly out of danger. Steeping the seed in train oil has been tried, and found to succeed; but as this does not appear to have been repeated often enough, it requires the test of further experiment. From what has already been done, steeping in oil merits a fair trial. Two pounds of seed are generally allowed for an acre, but much less will do in general. Perhaps it might be of use to scatter a few seeds in the intervals of the ridges, which by springing near the surface, and perhaps earlier than those in the drills, may occupy the flies until the latter are out of danger. As the seed is far from being expensive, this plan appears worthy of trial. After the plants have got a few rough leaves, they are thinned out by hand-hoeing; and when they have got so strong as to be perfectly safe, the horse-hoe is employed to take down a little earth from the ridges,

ridges, and to cut any weeds that may be growing. After this, the hand-hoe is again employed, and the superfluous plants removed, so as to leave those that are to form the crop at the distance of from 7 to 9 inches. If the crop looks fair, this is done on the first employment of the hand hoe. The distance varies according to the richness of the land, and the quantity of manure afforded. If every thing was to be as a farmer could wish, 12, or even 14 inches would be near enough for the plants to stand to each other. On account of the small demand for fat cattle, turnips are usually, and with great effect, given to young store beasts. If we were sure of a market, perhaps the most profitable mode of consuming turnips would be, feeding oxen and sheep. Occasionally there is a considerable demand for fat cattle. I have made ten guineas an acre by feeding oxen, and others have cleared as much. But, while we are at the mercy of the butcher, it is not prudent to feed too many large cattle. Horses are fond of the Swedish turnips, and perhaps it may prove a very serviceable article for them during spring.

Our winters are very unfavourable to the safety of turnips in the field. It is an object, therefore, in the first place, to choose the most hardy sorts, and, in the next, to defend them, if possible, from the weather. In consequence of a premium offered in the Farmer's Magazine, we became acquainted with a very useful method of storing. Instead of turf walls, as recommended, I use divisions of coarse wicker work, which admit a little air to circulate through the heaps, which I have found of importance. The plan of storing which I follow is this:

Rows

Rows of stakes are driven into the ground, so as to be three feet high, three feet distant in the rows, and six feet apart for each heap. Branches of fir trees, from the thinnings of my plantations, broom, or furze, are then interwoven with the stakes. The turnips having had the tops and tap-roots cut off, are then piled up till they come to a point six feet from the ground. Straw is then laid loosely on the top, and over that a thatch of fir branches. Stored in this manner, the common white-globes keep well till the middle or end of April. Before storing, I leave the turnips on the field for a day or two, in order that they may have a chance of being washed by rain. The heaps are formed on a gentle declivity. Besides being useful for preserving them, storing is very convenient in the event of deep snow covering the ground, and rendering the turnip field inaccessible, or during severe frosts, when the roots are fixed in the ground.

SECT. 10.—POTATOES.

POTATOES have become the most important article of food among the Highlanders. Their anxiety to collect manure, and their activity in planting the sets, and taking care of the crop, is wonderful, although they seldom shew much skill in their mode of management. It is somewhat curious that turnips have, in so remarkable a manner, superseded the use of potatoes for feeding cattle. There is only one reason for this, that

that as turnips do not require to be sown so early, time is given for cleaning the ground, and reducing it to a proper state of tilth. Potatoes contain more nutritious matter in the same bulk than turnips, and they fatten cattle more quickly. They admit of the ground being kept clean during their growth, and every corn crop which succeeds potatoes is better than any which comes after turnips. Being removed from the ground before winter, the operation of spring tillage is admitted at an earlier period, and the land is found in a state very different from that poached one occasioned by carting off turnips in wet weather. It often happens, that during winter turnips are covered so deeply by snow, or are so fixed and frozen in the ground as to be quite out of reach, while potatoes are always accessible. The tediousness of planting potatoes has been brought forward as an objection to their being cultivated on a great scale; but when it is recollected that they do not require to be set out by the hoe as turnips do, the labour of committing them to the earth will not be found greater than for turnips, on the whole. But the grand objection seems to be, that potatoes are an exhausting crop. This is, though a general objection to particular crops, a very extraordinary one to come from a farmer, whose sole object is to cultivate his crops in such a way as to enable them to draw the greatest possible nourishment from the earth. It appears that, in proportion to the quantity of farinaceous matter it contains, a crop is called exhausting. The more of this matter which can be drawn from the soil, the better for the farmer. Hence the great attention which has been paid to vary the species of crops, so that the soil may be restored and assisted

assisted at proper intervals. In this consists the whole science of agriculture; and he is called a good farmer who can exhibit uniformly fine crops, and who manages his land in such a manner as to keep it in a state constantly fit to yield a heavy crop of some description or other. In a comparison with turnips, potatoes will be found to require the soil in the same state of preparation, and equally disposed to part with its nutritious qualities to the vegetable growing in it. The leaves do not retain more moisture than those of turnips, and the only difference seems to be, that the roots of potatoes go farther in search of food, and collect more of it than the roots of turnips. On the whole, on a fair comparison of the expence and profit of the two crops, it appears that they are nearly equal. Potatoes afford more nourishment, and save the land from being poached, and are much more easily stored than turnips. The only advantage which turnips possess, that of admitting to be later sown, is easily counterbalanced by a naked fallow being introduced into the rotation of crops, for the purpose of preserving the soil in a clean state. It will probably appear, on proper inquiry being made, that wherever potatoes have been condemned, there was no fault in the nature of the vegetable, but much to be blamed in the management, not only of this, but of the subsequent crops. For the most part, potatoes are sold from a farm, and of course there will be a deficiency in the supply of manure. But if they be consumed, as turnips are, there seems to be every probability of their being brought more into favour. Turnips are confessedly a much more precarious crop, at the outset, and also in their produce, than potatoes; and while the former

are

are exposed to the effects of frost, the latter are perfectly safe. By a proper application of dung, and a proper disposition of herbage, the argument respecting exhaustion will soon be rendered nugatory. In districts where turnips are raised for sheep, potatoes would not perhaps be a proper substitute, because the sheep help themselves to the turnips, and leave their ordure on the ground. But for house-fed cattle it appears to me that potatoes are preferable. Mr Curwen has clearly shown the advantages to be derived from steamed potatoes, and I propose to try whether, in actual experiment, they will be preferable to turnips in this country, as I think myself justified in making a trial, from the arguments which I have briefly advanced in favour of potatoes.

There is certainly no mode of improving coarse tough land superior to planting it with potatoes in lazy-beds. The advantages of this plan of improvement have often been pointed out, particularly in the cases of soft, wet mosses. There can be no doubt remaining of the good qualities of potatoes as a cleansing crop. But as the Board is already fully acquainted with those matters, it is unnecessary to dwell upon them longer. I may be allowed, however, to remark, as a further argument in favour of potatoes, that those who have condemned them, do not seem to have paid any attention to the habits of different varieties of this vegetable. Nay, so careless do farmers in general appear on this point, that it is seldom we can see a field containing only one sort. Perhaps there is no vegetable so much inclined to sport (as gardeners speak), into varieties as the potatoe, when raised from seed. This holds out a very fair prospect to any one who wishes

wishes to search for early varieties, of finding a sort to suit each particular soil and climate. On this subject there is not much generally known. But the habits of some varieties are pretty well understood. In this country many properties of the potatoe plant are not attended to; a few observations on these, although they may not be of any use to the Board, may yet be acceptable to many, who I believe will take up this survey, if it should be deemed worthy of being made public.

The potatoe plant requires a different treatment to make it flourish, from that which it requires to make it produce tubers. The tubers do not seem properly to belong to the plant, but to be an excrescence, if I may so call it, occasioned by particular treatment. The parts common to a plant are roots, stem, leaves, and flowers, which last produce seed. In the case of the potatoe, as has been already remarked, the seed, like that of some other plants, produce varieties all different from the parent plant. In the case of the apple the same variety may be continued by grafting. The potatoe plant being annual, nature has provided a mode of continuing the individual species, and we find this in the tubers. What an endless source of amusement does the nature of the potatoe present to a person residing in the country, and how wonderfully is the benevolence of the Great Parent of all displayed in this common plant! By sowing the seed we may obtain varieties of every character; and when we find one which suits our views, we have it in our power to preserve it. If a potatoe plant be placed in a situation where it can procure as much food as it can possibly consume, it flourishes luxuriantly, and its flowers

flowers and seeds come to the greatest perfection. But then it will have either very useless tubers or none at all. This has been observed by every body who has expected to find a large crop of tubers at the root of a potatoe growing accidentally on a dunghill. There the plant flourishes and becomes luxuriant, but no potatoes are found at the root. There is a certain degree of richness in the soil necessary for the production of good tubers; but an excess seems to destroy the capacity of the root for producing them; or, to speak more precisely, prevents the plant from getting into that state in which it is disposed to produce them. As far as I can at present recollect, the potatoe is the only cultivated plant which may be propagated both by seeds and buds. By the former a number of varieties may be obtained, as is the case with fruits such as apples, gooseberries, &c. By the latter the particular variety may be continued. It may not be improbable, that the cause of the seeds producing such infinite variety, is not the natural disposition of the plant; but that it is occasioned by the farina of the male flowers of one species or variety, impregnating the flowers of another, and thus producing new varieties, so that the mixtures become endless. This appears to be the case with apples and other fruits. I once planted some red-topt and white-globe turnips together, and allowed them to ripen their seed. The consequence was, that I had a variety of striped turnips from the seed, red and white, and some altogether of a pale red. This is a subject well deserving of investigation, and I have little doubt but it may hereafter be found, that the seeds of the potatoe, when preserved pure, will produce tubers of the same sort

as

as the parent. It appears that, in order to produce tubers, the plant must be particularly circumstanced. There are few persons who have not observed that the buds of some plants become roots when placed in the earth. When soil is heaped upon potatoe stems, the production of roots takes place. But the formation of tubers seems to depend not merely upon some peculiarity of condition in the soil as to richness, but also upon the degree of opposition which the roots meet in their progress. It is necessary for the production of tubers that the plant should receive a due supply of nourishment. But, although this be afforded, the formation of tubers may be almost wholly prevented by keeping the earth loose, so as to allow no obstruction to the roots. When the roots meet with any obstruction, then they become disposed to form tubers. Dr Coventry, in his Lectures, mentions a number of experiments on this subject; and I recollect his mentioning the circumstance of the shoots of potatoes in a cellar, producing no tubers except when they were obstructed by a wall, or a plank, or the like. This is a striking and most important fact. It has also been ascertained that, whenever the roots have begun to form tubers, any additional pressure is dangerous. Thus it appears, that much attention is required on the part of the husbandman, in order to bring his potatoe crop to the greatest perfection. The facts already hinted at being known, the culture of the potatoe must be regulated by them.

The first thing to be attended to is the texture of the soil. In considering this, another fact must be kept in view, viz. that after the tubers have begun to form,

form, a loose and open state of the soil is necessary for their growth.

The tillage necessary for potatoes is much the same as that required for turnips. But much depends on the texture and degree of cleanness of the soil; free and clean soils requiring less tilth than such as are foul and heavy. The necessity of a naked fallow for foul lands need not now-a-days be insisted on. It is by means of it alone that land can be made clean, and by means of drilled crops it may be preserved in that state. On land that is clean, and of moderate tenacity, one ploughing in winter and one in spring, with the stirring occasioned in forming drills, will be sufficient for potatoes. There is a considerable difference of opinion displayed in the Report of the Board on potatoes, and nothing can shew better than that circumstance, the necessity there is of attending more particularly, than seems yet to have been done, to the health of this useful plant. In respect to manure, there are a great variety of opinions. But those that are best informed on this subject recommend that the common farm-yard dung, reduced so far as that it may be uniformly spread upon the land, should be used. The practice of spreading the manure all over the field, and ploughing it over, is certainly not the best, if, as is presumed, the potatoes are considered as a hoed crop. The hoeing must remove part of the dung from the roots, which should have as much benefit as possible from the whole of it. Inserting the dung in drills or ridges is certainly the best plan, as by that means it is placed quite out of the reach of subsequent operations, in such a manner as to be

wholly bestowed on the plants. There is a great diversity in the mode of preparing the potatoes for setting. Some choose to plant small potatoes entire, others choose differently shaped potatoes, and prefer, some the thick, and some the small end; but as far as I can judge of the numerous experiments which have been made by others, and the few which I have made myself, I am decidedly of opinion, that, such potatoes as are of a middling size, and have fewest eyes or buds, are the best for planting, and perhaps the eyes of the largest end of the tubers ought to be preferred. The time for planting potatoes seems very generally to be the same both for the late and early sorts; and this want of discrimination often causes the loss of the crop; as the early sorts bear to be planted later, they ought to be preferred, in this climate at least. It is of advantage to dry the cuttings a little before planting, as, when quite fresh, they are apt to rot in the ground, especially if the weather should happen to be wet. With respect to culture, little need be said. Earthing up does little if any good, and in the hoeings and dressings care should be taken not to keep up too great a weight of earth upon the roots and stems. But this will depend somewhat on the distance of the rows and quantity of earth which can be turned up by the plough. I have dwelt longer on this subject than may to many seem necessary; but as there is a great variety of opinion respecting the culture of potatoes, and as this arises from ill-digested experiments, I felt anxious to describe some particulars respecting the potatoe, before I advised my neighbours to make experiments for themselves. In doing so many things must be attended to; but every farmer will be well

rewarded for whatever attention he may bestow upon this vegetable.

With respect to the harvest management, much need not be said. In general the time for taking up potatoes in this country is too late. It is not difficult to judge of the ripeness of potatoes. As soon as the apples appear to be full grown, and their stems to wither, the crop should be raised. This is commonly done by means of the plough, in a neat and effectual manner. The drier and cleaner potatoes are, when about to be stored, the better. The usual method employed in this country, and I believe all over Scotland, and many parts of England, is to heap them up in an oblong hole eight inches deep, and six feet wide, until the heap comes to a point. They are then covered with straw, and earth is thrown above the whole to the depth of eight or twelve inches.

SECT. 11.—CLOVER

Is sown with barley, or oats, and sometimes with wheat. Part of it is cut for soiling horses, and the rest for hay. It is rarely sown by itself, as it is usual with the farmers of this country to take one crop of hay, and to depasture the field for one or two years afterwards. Rye-grass, and sometimes rib-grass, are sown along with the red and white clover. The seed cannot be well ripened in this climate, and we therefore get our red and white clover from the south, and what

what is imported from Holland is always preferred. I do not know, however, that any fair experiments have been made for raising clover-seed. If clover is to precede wheat, it appears to me that cutting it for soiling is not only the most profitable mode of using it, but that it leaves the soil in a better condition for receiving wheat, both in respect to fertility and looseness. If depastured, the soil becomes firm, and it is not so easily brought to a loose state by ploughing and harrowing, as when it has borne the clover, either for hay or soiling. When left for hay, it carries off more nutritious matter from the soil, than when either cut or depastured.

SECT. 12.—TREFOIL

HAS been cultivated by several persons, by whom it is considerably esteemed for pasture. It is usually sown with clover, and treated in the same manner.

SECT. 13.—RAY OR RYE-GRASS.

THIS most useful grass is the only one which is cultivated by our farmers. The perennial sort is preferred, on account of pasture, for one or two years, coming

coming into almost every course. As already mentioned, it is sown along with clover.

SECT. 14.—HEMP

Is only cultivated in very small quantities by the fishermen on the coast, and there is nothing in their mode of management worthy of notice.

SECT. 15.—FLAX.

In some places, we find considerable fields sown with flax. But for the most part, it is only cultivated in small patches on the fields bearing the crop which is to precede a hoed one. It is customary to allow farm-servants to sow a small quantity for the use of their families. No particular attention is paid to its culture. It is pulled about the time when the seed is half ripe, or a little more, and steeped in lochs or pits, and sometimes in the pools of rivers. It lies in the water about a fortnight, and is then dried. It is probable, that were there good lint mills erected in convenient places, the cultivation of flax would be profitably extended.

SECT.

SECT. 16.—ROTATION OF CROPS.

NOT considering myself so good a farmer as to be able to suggest proper rotations for the arable lands of the eastern part of the counties, it was my intention not to have offered any thing on that subject for the consideration of the Board. Having mentioned this to a friend, whose skill in every thing relating to agriculture is universally acknowledged and admired, he persuaded me to complete this chapter with a section on rotations. Having had his assistance, I have no scruple in submitting the following courses, as those which seem best adapted for our climate, and other circumstances which influence the operations of our farmers. I have kept in view the rearing of sheep and cattle, which undoubtedly ought to form a prominent feature of our husbandry.

No. I.

1. Turnips drilled and dunged.
2. Barley with red clover and rye-grass.
3. Grass to be used in soiling, or for hay.
4. Wheat. The ground to be ploughed before the end of September, and to receive a slight dressing of dung, if it can be procured.
5. Peas, for which two furrows, one before winter, and the other at seed-time, may be given.
6. Barley with grass-seeds.
7. Pasture.
8. Pasture.
9. Pasture.

10.

10. Oats.

Upon inferior soils, calculated, however, for producing turnips, a more gentle rotation may be practised. For instance,

No. II.

1. Turnips drilled and dunged.
2. Barley with grass-seeds.
3. Pasture.
4. Pasture.
5. Pasture.
6. Oats.

On lands too wet for turnips, the following course may be successfully practised.

No. III.

1. Plain fallow with dung.
2. Wheat, sown early, and accompanied by clover and rye-grass.
3. Grass, to be used in soiling, or for hay.
4. Oats.
5. Tares, or grey pease, with a slight dressing of dung, or a more considerable one of compost manure.
6. Barley with grass-seeds.
7. Pasture.
8. Pasture.
9. Pasture.
10. Oats.

For still more inferior soils, the following may be adopted.

No. IV.

1. Fallow and dung.
2. Wheat, with grass-seeds.
3. Pasture.
4. Pasture.
5. Pasture.
6. Oats.

The above rotations are calculated for land already cultivated. But for the improvement of waste land, it is evident that none of them can be successfully practised in the first instance. The following measures are therefore recommended for bringing waste land into culture.

No. V.

1. Break up the waste ground with a strong furrow during winter, or early in the spring; and harrow it well, so that the grass and their roots may be completely destroyed.

2. Give a complete summer fallow, making free use of the harrow and roller. Upon this fallow, apply at least 50 bolls of good lime-shells, taking care to spread the lime, and to plough it in as hot as possible.

3. Oats.

4. Fallow repeated, and dung to be given, if it can by any means be procured.

5. Barley, with grass-seeds.

6. Pasture.

7. Pasture.

8. Oats.

The land will now be in a state fit for any of the four first rotations which may suit it, on a considera-

tion

tion of local circumstances. The rotation may be long or short, in a direct proportion to the richness of the soil. Under management, such as has been suggested, land would never become foul, or be deteriorated. In every case, a good practical agriculturist will attend to soil and climate, which regulate husbandry in every department.

CHAP.

CHAP. VIII.

GRASS-LANDS.

SECT. 1.—MEADOWS.

On some low grounds on the banks of rivers in the mountainous districts, there are some small patches of what may be called meadow-ground. The extent of these is not so great as to induce the sheep-farmers, in whose occupation they for the most part are, to cultivate them; or even to take any means, such as flooding, in order to render them more productive in hay than they are naturally. The produce is commonly reserved for cattle during winter.

SECT. 2.—PASTURES.

Heath pasture, and that which is commonly found in the valleys and straths between the mountains, has been often described to the Board. There is but a small

small portion of the arable land of the country laid down for permanent pasture. Indeed, we find it nowhere but around gentlemen's seats. Our best farmers have in general a part of their farms laid down for two or three years pasture. To red clover and rye-grass, white-clover and rib-grass are added in laying down the fields. A crop of hay is usually taken the first year. When grass-land is broken up, it is done by the plough, and oats are the first crop, and frequently the second.

CHAP.

CHAP. IX.

WOODS AND PLANTATIONS.

COPSE WOODS.

THERE are so few copse woods in this country, and those of so trifling an extent, that little can be said respecting them. There are, here and there, some patches of oak, but there has been no attention paid to their management. They are sold whenever the wants of the proprietors prescribe.

In the district of Ferrintosh, there are some copses well inclosed. The oak is cut for the sake of the bark. There is no temptation for converting the wood into charcoal; nor have we any inducement to attend to copses for poles or firewood. The natural woods in the north consist chiefly of fir and birch; of oak there are but few remains.

Plantations.

Around the seat of almost every proprietor, we find many venerable trees of different sorts. The oak, ash, beech, elm, &c. grow to a large size in this country. At Castle Leod, there is a sweet-chesnut tree, whose trunk is more than four feet in diameter.

The

The young plantations are thriving exceedingly well everywhere. To enumerate the exertions of each proprietor in planting, would take up too much room. We cannot, however, avoid being struck with the plantations at Brahan *, Red Castle, Tulloch, Novar, &c. and those of a more recent date in the eastern part of the country.

When planting first became a matter of importance in the north, hardly any thing but Scotch firs were planted. But now all sorts of wood for timber are committed to the ground adapted for them.

There being no consumption for the thinnings of extensive plantations, their management has in general become rather slovenly. Proprietors of land are now so heavily taxed beyond any other class, that improvements which do not promise a very speedy return of the capital required, are neglected, or at least, not much attended to. Scotch firs being very cheap, and good for the purpose, are employed as nurses for other trees. Oak is the wood most attended to. When the oak plants are seedlings of two years old, by using the fir spade, as it is called, a man and a boy, or girl, will easily plant a thousand per day. This is by far the most economical mode of planting; and it is well understood, that the younger the plants are when committed to the soil, the better they grow, although for the first few years they advance slowly.

Timber is very scarce, excepting fir, of which there are many plantations fit for most of the purposes to which that wood is commonly applied. The natural fir-

* Lord Seaforth has planted about five millions of trees of various sorts.

fir-woods, except one or two belonging to Sir Charles Ross, are mostly exhausted. All sorts of hard-timber are scarce, and indeed not to be got, but when any proprietor happens to be thinning the trees about his seat.

The price of fir, plane-tree, and lime, is generally from one shilling, to one shilling and threepence per cubic foot; ash and elm sell for three shillings and sixpence and four shillings per foot. For beech and oak there is no price which can be stated as general; but for good timber four shillings per foot are given.

CHAP.

CHAP. X.

WASTES.

MOORS.

There are great tracts of moors in this country, but comparatively little can be called waste. The moors of the Black Isle, that between Highfield and Beauly, and some others, may be called waste. But in general the inclosing and planting of them is proceeding.

Mountains.

These are entirely under sheep and cattle, as has been mentioned under the head occupation. The inquiries of the board respecting the inclosing, paring and burning, liming, and culture of mountains, must remain unanswered, as these things are never thought of, and probably never will be attempted, until gold becomes as plentiful as stone.

Bogs, Fens, and Marshes.

There are but few of these, unless peat-mosses be included. Wherever any prospect of profit is held out, the improvement of them is prosecuted. Draining is the first object, and liming the next. These proceedings require no description.

CHAP.

CHAP. XI.

IMPROVEMENTS.

SECT. I.—DRAINING.

THOUGH a good deal has been done in improving land by means of draining, much yet remains to be accomplished. Mr Johnstone, who was sent by the Highland Society to learn Elkington's method of draining, has paid frequent visits to this country, and has left many monuments of his skill. I have already mentioned the draining of Mr C. Ross, and Mr Rose's estates. The grounds which appear to be most neglected, are to be found in Strathpeffer and east Ross. The draining of the former has long been talked of, and I hope will soon be executed.

Drains to clear fields of water, are usually made three feet deep, a foot wide at bottom, and two feet (or three, as circumstances may require) wide at top. They are allowed to remain open for sometime, and are then filled up with stones, the larger ones being placed on the bottom, and the smaller ones above them. The whole are then covered with broom or straw, or small branches of trees, and the rest of the opening

opening is filled up with earth. Many of the drains on Mr Ross's and Mr Rose's grounds are open, and lined with solid turf, which prevents the water from cutting the sides.

2d, *Paring* and *burning* is very seldom practised, unless for the purpose of destroying heath; it is not, however, always effectual. Being expensive in comparison to the effect, it is, I believe, quite given up. Where heath is too short to burn standing, it may be very quickly torn up by means of an instrument called by the country-people, a cabbie, which is a half-pick with a broad end.

3d, *Manuring.*—In discussing this subject, I am sorry to be obliged to begin by saying, that our farmers are rather negligent in collecting manure, and rendering it fit for use. I shall, therefore, be excused for entering a little into it.

1. *Marl.*—This is plentifully distributed through the country, but is not much used. It has been already observed, that this manure is particularly efficacious on dry, light soils. All the marl of this country is composed of the detritus of shells. The wilk, cornu ammonis, and a bivalve, are the only shells I have found among the marl on my property. I have frequently met with them alive, and I was much gratified by observing, during last summer, that they had made their appearance in a bog, from which I am removing a bed of marl.

A good deal of caution is required in the use of rich shell marl, as it has been found to be pernicious when too freely used. The benefit or mischief to be expected from the use of marl, seem to depend upon the quantity of vegetable matter in the soil. Where the

the soil is thin and light,and where there is but a scanty supply of vegetable matter, marl cannot do much good, unless it is laid on land which has received a proper supply of dung, or immediately before dung is applied. On my own fields I have tried every mode of laying on marl. After some experience, I now find, that the best method is, to lay the marl on the stubble of the crop preceding turnips or potatoes. If the weather does not allow the marl to be spread in a dry powdery state, it is spread and distributed by means of a brush-harrow, which is nothing more than a few branches of trees fastened together, which are dragged along and across the ridges. While the land is under preparation for turnips, the marl becomes intimately mixed with the soil. The effects are particularly visible on the first crop of hay taken the third year after the marl is laid on.

Lime is commonly applied at the termination of a naked fallow, immediately preceding a crop of wheat; and it appears probable, that this is the best mode of bestowing it. Lime is eminently useful on stiff lands, and restores the energy of worn out soils in a remarkable manner. Of this our farmers seem to be aware, as, in every case which has come under my observation, liming is the first object of every one who takes a large farm from the hands of small tenants. There is some difference of opinion among our farmers, as to the best method of using lime; some of them being accustomed to spread it, and allow it to remain exposed for sometime upon the surface. But those who are at all acquainted with the chemical qualities of this valuable stimulus, know, that by exposure to the air, it soon loses its caustic qualities, and therefore

plough it in as soon as spread. Broken limestone, and limestone gravel, and calcareous sand, act in the same manner as marl, but not being so much comminuted, their effects are not so great. The same may be observed of what is called shell-sand.

Gypsum has been much extolled of late as a manure, but apparently without much reason. None of it has been used in this part of the kingdom. *Sea and river mud* are to be got in abundance near Dingwall, but their value is not known.

Sea-weeds are used wherever they are found; there is no doubt left of the propriety of using them fresh. I have frequently seen sea-ware laid in heaps, in order that it might rot; and some times have observed it lying quite dry on the fields. But the best practice, and indeed the only one which can render sea-weed really useful, is to plough it in fresh. If this cannot be conveniently done, it may be mixed with earth and other substances into a compost.

Pond and river weeds, and such as grow in bogs, &c. are all useful, when added to the general stock of manure. The scourings of ditches, ashes, soot, the refuse of fish, are all valuable, and ought never to be disregarded. But the most important of all articles is *farm-yard dung*. I am sorry to observe, that many of our best farmers do not seem to know how to obtain its excellent qualities in perfection.

For the most part, after it has been trodden down by cattle in the yard, it is carried to the field, and laid in thin low heaps, which are kept dry by the sun and wind. The consequence is, that we frequently see turnip and potatoe drills filled with nothing better than dry straw. I have known some farmers perfect-

ly content when they observed their dung rotten and black. But this is as unprofitable a state of yard-dung as when it is dry. In order that the dung of animals and dead vegetable matter may be rendered most fit for the nourishment of plants, they must undergo a certain degree of fermentation. To effect this, it is necessary that the substances to be reduced to a proper state for manure, should be heaped loosely together, and kept moderately moist. The fermentation is known to have begun by heat being generated in the heap. The principal part of the farmer's business in preparing manure, is to attend to this process, in order to prevent its proceeding too far; for, when neglected, the heat of a mass of dung rises to a degree which spoils all it good qualities.

Dung should never be allowed to ferment in the yard, and the treading it by horses and cattle is then of service. When carried to the field, it should be laid in heaps of a size which will admit of a certain degree of fermentation, without risk of its extending so far as might be hurtful. Heaps of four or five feet high, and six feet broad, have been found to answer the purpose. In these the fermentation proceeds slowly, and soon ceases.

A short time before the dung is to be spread upon the field, or placed in ridges for turnips or potatoes, it should be turned over; and, if this can be done during wet weather, so much the better. The heaps may be thickened, and the fermentation allowed to proceed so far, that the dung may not be what is called firefanged. By this treatment, the mass will be reduced to a state which will render lifting, either with a fork or spade, difficult; and that is a mark by which

which well prepared dung may be readily known. It is of importance during the last process, to cover the heap with a thin coating of earth, or compost of any kind, in order that every part of it may equally be subjected to fermentation. It frequently happens, that a farmer is obliged to use a certain quantity of raw straw-dung. This is most economically applied to turnips, and it should be inserted in the drills in a moist state. In preparing a dunghil, care should be taken to mix all sorts of dung, and substances intended to be fermented, together. It is a very common practice to keep different kinds of manure separate, and to put them apart on the same field. But this is evidently an improper practice; because different sorts of dung operate differently, and some parts of a field may be more enriched than others; whereas, it is both more profitable and pleasing to have a field uniformly fertile, if possible.

I believe that I have myself had more experience in the modes of using peat-moss, and of its effects as a manure, than any other person in this country. I had occasionally used it before I was in possession of my friend Lord Meadowbank's experiments, but had never particularly attended to it. Immediately after perusing his Lordship's important experiments, I set to work, and prepared composts according to his directions. I found much difficulty in getting my farm-servants to attend to the proper proportions of the materials, and dimensions of the heaps; but by constant attention I succeeded. The soil of my farm is light, and rather sandy. I employed the peat composts for turnips with perfect success, and the subsequent crops were

were as good as I had ever obtained when ordinary manure had been used.

I began, however, to suspect, that all the benefits of Lord Meadowbank's discovery of the effect of fermenting dung upon peat-moss mixed with it, might be obtained in an easier way than that which his Lordship prescribed, and with very little attention. I have accordingly found the method of mixing peat-moss with yard-dung, which has been already described in treating of turnips, to answer perfectly well. It ought to be remarked, that some sort of peat will not do so well as others. The more dense and blacker the peat, the better will it serve the purposes of manure, when prepared. The sorts which are light in colour and weight, ought to be rejected, if any other can be procured.

The ploughing in of green crops is a practice which has been long exploded, having been found extravagant and ineffectual, when compared with the more beneficial and economical methods of enriching the soil.

A great deal of very useful information on the subject of manures is to be found in the outlines of the fifteenth chapter of the proposed general report from the Board of Agriculture. So far as relates to the practice of farmers, a very few general rules are sufficient. An investigation of the changes which various substances must undergo in order to be fit for the nourishment of plants, is a fit employment for the ingenuity of philosophers; and to those who have turned their attention to a subject fraught with so much benefit, the gratitude of the cultivators of the soil is due.

SECT.

SECT. 2.—IRRIGATION.

THIS has not been much practised in the north, although it might be supposed that, where the ground so uneven, many opportunities of irrigating with advantage might be found. But where the fall is considerable, it is very dangerous, in our climate, to attempt this improvement, which in other countries is of so much use. Heavy and sudden falls of rain frequently produce torrents, where hardly a drop of water was to be previously seen; and even when confined by strong embankments of stone or earth, the most destructive effects have been produced by the sudden swelling of very trifling rills of water. The slender methods employed for guiding the water destined to irrigate a field, could not withstand the consequences of the heavy rains which we often experience. Flooding might in some cases be practised perhaps with advantage. I remember my father employing a man of the name of Stevens, (and I believe he was recommended by the Board of Agriculture) to flood a moor of about 400 acres, lying between two rivers, and situated so that a superficial observer would instantly decide on the most proper manner of accomplishing what was desired. Some years afterwards, I found Stevens' proposals among my father's papers, and was struck with the absurdity of his scheme, which was neither more nor less than to turn the course of the river Conan; to make it run into a lake considerably above the level of the moor, and by these means to overflow the whole. Had this plan been put in practice, it would have cost as much money as would have purchased twice 400 acres in perfect cultivation;

vation; and over and above that, the water would have swept off about 200 acres of arable land before it could reach the moor; the soil of which, in all probability, would have been carried away likewise. I have not mentioned the destruction of my own and my neighbour's salmon-fishings on account of the channel of the river being emptied, because probably this had never been mentioned to Mr Stevens; but I have described his proposals, in order that the Board and the public may be on their guard against imposition by such people. This man must have been inclined to impose upon my father, than whom a more zealous improver was not to be found, although, from a long residence abroad, he was not quite up to the quackery of modern flooders, &c.

SECT. 3.—EMBANKMENTS.

I CAN hardly say that any thing of importance has been done in the way of embanking. I may mention, that I have found embankments of turf constructed against rivers, to answer extremely well when parallel with the current, or opposed to back water. Those I have had occasion to make are about seven feet thick at bottom, and of a height proportioned to the rise of the river in different places, having the slope towards the river. Mr George Munro has reclaimed a considerable extent of land near Dingwall from the sea, by means of turf walls. Mr Cockburn Ross's embankment against the sea has already been mentioned.

CHAP.

CHAP. XII.

LIVE STOCK.

SECT. 1.—CATTLE.

The cattle reared in the low parts of the country are chiefly intended for the dairy, and are a mixed breed. The oxen and old cows are most commonly fattened for the butchers of Inverness and Fort-George; private families preferring the small Highland sorts. It has been observed by the best English breeders, that the pure west Highland breed is likely to prove the most profitable stock for feeding. It certainly is not so for the dairy. The demand for butcher-meat is so small, that most of our farmers bestow their turnips on young cattle; and it has been pretty well ascertained, that this is a much more profitable method of consuming turnips, than feeding cattle for the shambles. The principal consumption of beef is in furnishing the shipping of Inverness and Cromarty, and by the troops in Fort-George. Good beef is not required by either, and the butchers collect any old cows or work oxen which may be fed off by the farmers in the neighbourhood. The breeding of cattle is by no means a profitable employment for farmers

farmers in the low country. It is easier and more economical for them to buy cattle from the Highland parts of the country, of such ages as they require for consuming their green crops and straw. All this is now well understood. No particular attention is paid to rearing cattle expressly for butchers. The taste of the Highlands is formed by that of the drovers who carry cattle to the south. There is not much regard shewn for a breed for the dairy, as there is no farmer who looks to this department for profit, but merely for comfort and convenience. Several people have the Fife breed, some the Morayshire, and others a mixed breed. I have a Guernsey cow, and some of her descendants which have a little Highland blood in them; and I consider them very valuable. The richness of the milk of Guernsey cows is well known; and as to the shape and general appearance of those in my possession, they are allowed to be handsome cattle; they want horns. With respect to the general management of cattle in the low country, it is much the same as in the southern districts. During summer, they are never kept in the house, and, during winter, they are either fed in stalls with turnips, or allowed to walk about a straw-yard, well provided with provender. More attention being paid on the west coast to the breeding of cattle, I shall be more particular respecting the management in that quarter. I may mention here, that many of the proprietors in the low country, and a few farmers, are beginning to procure bulls of a superior stamp, and of the pure Highland breed, with the view to try how far their qualities for feeding, and for the dairy, may be improved by great attention and good feeding.

SECT. 2.—SHEEP.

PERHAPS fashion has more influence in prescribing breeds of sheep than breeds of cattle. People in general pretend to be very nice in their taste, and I have seen so much fastidiousness in the palates of many persons, that I would have been persuaded, that there really was some remarkable difference in the flavour of different sorts of mutton, had I not resolved to impose on some of my friends, if possible, and to discover whether there was really any particular preference to be given to the flesh of one breed of sheep over that of another. I have often set before my guests mutton of the Leicester, Cheviot, Forest, and country breeds, taking care that none of it should be particularly remarkable for fatness, and they have mistaken one for the other. Provided that the Leicester breed be prevented from becoming too fat, and not slaughtered till four years old, the nicest palate cannot distinguish it from any other breed. I have made many experiments in this matter, and have been greatly amused with the results.

On most low farms a few sheep are kept; and every resident proprietor rears some for his own table. Different breeds are kept for this purpose. The pure Cheviot, a mixture of that breed with the Leicester, and a mixture of the latter with the old white-faced horned breed of the country, are frequently met with, and also the pure Leicester. Mr Rose has the South Down, a more valuable breed both for carcase and wool. Mr M'Leod of Geanies is now crossing the Cheviot breed with the Merino, and I am also engaged in the same cross, and in crossing the South Down breed.

breed. The cross with the Cheviot promises to be very valuable. The quantity of the wool on the sheep from the first cross, is greater than that on either of the parents, and the carcase is little altered from the shape of that of the mother, and by no means for the worse. The longer I experience the value of the improvement in wool, the more I am satisfied of the ease with which even the pure Merino may be inured to our climate. I have in contemplation to carry my experiments pretty far, and to communicate to the public whatever degree of success or failure may attend them. Perseverance is necessary in experiments of every kind; and I am not deterred by failures in other quarters which have evidently been occasioned by mismanagement. I am sorry to say that, in general, very little attention is paid to the home flocks of either proprietors or farmers. I have experienced both the necessity of attention to the health and comfort of sheep, and the degree of reward which it affords; and I can safely say, that no part of a farmer's stock can repay attention more liberally than his sheep.

With regard to my own ideas respecting the management of sheep, I have already made them public; and I need not therefore say much on the subject here. A great variety of food I do not approve of for sheep; and during winter, unless severe frost or snow compels me, I never give my flock any thing but what they can pick up on my ordinary pastures, except now and then a few turnips and a little hay. When snow lies very deep they get a full supply of turnips and hay.

I have never been much in the practice of folding sheep for the sake of manuring land; but I decidedly disapprove of the practice, both on account of the injury

jury it inflicts on the sheep, and its apparent inutility. The dung of sheep has certainly a very shewy effect, but I have some doubts of its permanency. The most striking effects which it produces are observable on grass. Sheep refuse grass which springs through their own tathe, though horses eat it greedily. In comparison with horse-dung, that of all ruminating animals must fail. In the stomach of the latter, their food is most completely digested and every part of what they swallow, which can in any way be serviceable, is absorbed. A horse, owing to his active employment, causing a greater waste of his body, requires only the most nutritious and most easily digested part of his food. The consequence is, that horse litter consists of vegetable matter almost unchanged, and in a state highly disposed to ferment, and to be reduced into the most valuable form for the purpose of giving nourishment to plants.

Sheep ought never to be confined to cots, but they should have access to open ones, where these can be conveniently erected. To obtain very fat carcases is not an object in this country. We are contented to see old mutton moderately fat at our tables, and have not yet arrived at that degree of refinement in palate, which is requisite for enabling us to load our stomachs with grease, without experiencing nausea *.

Mr

* After repeated solicitations on my part, and repeated promises on Mr Young's, I have not received from him any account of his flock of Swedish Merinos. Having viewed the flock a considerable time ago in a cursory manner, and under heavy rain, I can only say, that Mr Young's exertions have certainly been great. At the same

Mr Macleod of Geanies and myself have been the first to attempt improving the wool of our home flocks; and we have no cause to repent having made our experiments on a pretty large scale. But we are not yet prepared to state particularly the results of the trials we have made. There is an observation which I can make with a considerable degree of confidence, and which is of some importance to breeders, and that is, that from all I have been able to notice in the habits of sheep, and the effects of various treatment upon them, the quality of their wool is not affected by any variation of food or climate. It is often observed that, among the human species, the hair of different individuals descended from the same parents varies in fineness. This is the case with the wool of sheep; and it is a circumstance that renders a careful selection of

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same time I feel myself obliged to state, that I observed some management which did not altogether accord with the rules which have been long successfully practised by the most skilful shepherds; but which, I doubt not, would have been properly accounted for by Mr Young, had he favoured me with a communication. If Mr Young shall raise a sufficient quantity of turnips and hay, and shall take care that his shepherd distributes them properly, and that he is cautious in putting the sheep on early grass, there can be no doubt of the flock becoming as fine a one as any in the kingdom. The want of cots and fanks and inclosures struck me. I am persuaded, that these will soon be supplied. The situation of Mr Young's farm is excellently adapted for sheep.

The value of Merino sheep is only beginning to be understood in this country. General Robertson of Lude lately informed me (and indeed sent me the statements), that by means of the Merinos, he had increased the income upon his estate to the amount of L.1014 : 7 : 6 per ann. within two years.

of breeding ewes necessary, in order to bring the wool of a whole flock as near to equality as possible. If no selection be made, the wool will soon degenerate; and this has been attributed to change of climate or of food. The intermixture of different breeds affects the wool very materially. But the effects of selection are no less remarkable in any one breed. I have not the smallest doubt but that, by proper care, the wool of the Cheviot sheep, inhabiting our most northern counties, might become equal to the best South Down. I am the more certain of this, from having examined various fleeces which have come to the woollen manufactory at Inverness, with which I am connected. I have also seen some specimens of Caithness Cheviot wool, which confirms my opinion.

Sheep on our low grounds are very seldom affected by diseases of any kind. Sturdy and braxy are the most frequent, and sometimes the staggers. The first I have observed to be most frequent among my South Downs and their descendants.

The ordinary artificial pastures of this country are capable of maintaining four Cheviot sheep on an acre. It is somewhat remarkable that Cheviot sheep have not yet been established on the hills of Ross-shire. One or two slight trials have been made, but so slight, that their want of success is not a matter of wonder. I am about to introduce a considerable flock, and I hope that my example will soon be followed. Many of our hills are indeed too high and rugged for that sort of sheep; or rather the face of the country in most places renders attention to them difficult and hazardous; for there is nothing in the climate or the quality of the pasture to prevent them from thriving.

The

The management of the black-faced sheep on the large farms is the same as in other countries.

Horses.—The horses used by our best farmers are mostly imported. Several persons have of late begun to breed horses of a very good description for work, and the profits are very considerable. The country breed are not larger than ponies, but, by care and attention in breeding, might become very good and useful animals. They would increase in size, and probably might be brought to vie with the once celebrated, though almost extinct breed of Galloways.

The horses of the better description of farmers are treated precisely as in all other districts where improvement in agriculture has made any progress. Disease seldom attacks our horses; and there are numerous instances to be found of horses living to a great age, without ever having been affected by any distemper. A remarkable instance happened on my own farm, of two horses having been under the care of the same person during eighteen years, and never having been a day absent from their work. The servant who managed them was a most faithful one; and when I rewarded him on the final decay of himself and his horses with a comfortable retreat, I applied at the same time to the President of the Board of Agriculture, and to the Highland Society of Scotland, for some honorary mark of distinction to a man who had set so important an example to his fellow-servants, and to every one in a similar capacity. But I applied in vain. I never received any reply to my repeated applications. I am at a loss to discover on what more deserving object either the Board or the celebrated Highland Society could bestow their favour. The Society

ciety seldom permits any of their money to reach the north Highlands; and the funds seem to follow the influence of a particular junta, whose apparent zeal seems to prevent them from discriminating proper objects of attention. I may add, that when the Society does favour us with its notice, it offers rewards which will probably be seldom competed for. The Directors in Edinburgh cannot be so well acquainted with proper objects, and proper places for improvement, as the members residing in the country, not one of whom I believe are ever consulted. Indeed, I am very sorry to say that, in the Highlands, the Society has got a very bad name, and whether with justice or not, it is not my business, though an unworthy member, to determine.

Hogs.—The breed kept by gentlemen for their tables is that of China. The country people rear a good many of the large common breed, which are generally bought up in spring by people who cure pork at Cromarty, and other places on the east coast. No particular attention is paid either to the breed or feeding. The animals are generally allowed to shift for themselves, and get only an occasional meal of potatoes and kitchen offals. As to sties, there is seldom such a thing to be seen about the habitations of the common people. The same house, which may indeed be called a stie, serves for all the family and the swine too.

Poultry.—Fowls are not reared for profit. Turkeys, geese, ducks, pea-fowls, guinea-fowls, are kept by most of the families who reside in the country. The Caithness breed of geese has long been admired in many parts of the north; and it is certainly a valuable one

one for the table. The Caithness geese are somewhat smaller than the common domestic breed, and they have a singular propensity to fatten. I have had them for some years, but they have unfortunately mixed with the common breed. They appear to me to be the best of all the tribe; and I am somewhat surprised that they have escaped the notice of the patriotic President of the Board. Pigeon-houses are to be met with almost everywhere.

Bees.—The abundance of heath and clover, besides the flowers produced in our gardens, might make us suppose that bees would be worth attending to. But although they thrive extremely well, very little attention is paid to this industrious and valuable insect.

Mr Mackenzie of Ord surpasses all his neighbours in the management of poultry and bees, but his example has not been followed, although his merits have been universally acknowledged. Many contrivances have been made for robbing bees and saving their lives. The interesting work of M. Huber will probably draw more attention to bees than they have hitherto received. Mead is a pleasant and wholesome beverage; wax is a most valuable article; and no one is unacquainted with the gratification which honey in substance affords to the palate when eaten with bread. Every gentleman should encourage his tenants and cottars to keep bees. They require very little attention, and would be a source of considerable profit to poor cottagers.

CHAP. XIII.

RURAL ECONOMY.

LABOUR.

The price of labour is extremely various in these counties. For this no satisfactory reason can be given. In order that the Board may possess materials for forming a tolerably correct estimate of the price of labour, I shall subjoin two communications, one from Capt. Munro of Teaninich, who resides nearly in the centre of the great arable district of Ross-shire, and another from Mr Mackenzie of Allangrange, who resides in the Black Isle district.

"The wages of farm-servants in this district," says Captain Munro, "vary a good deal. I pay to my ploughman L. 8 in money, 6½ bolls of meal, 8 barrels of coals, 1 pint of milk per day to some, and a chopin to others, from Whitsunday to Martinmas. They have a free house, and as much land as will take one-half boll of potatoes to plant it. This is manured with such dung as they collect themselves, and one or two cart loads from my farm-yard are sometimes added by way of premium to deserving servants. Those who cannot plough, have from one to two pounds less money, and one-half boll less meal.

"Day

"Day labourers were this year paid from 1s. to 1s. 3d. per day. Hitherto they have been procured during winter for 10d. Women during summer get 6d. and during winter 4½d. per day.

"Hay is cut by the acre at 3s. 6d. and 4s. 6d., according to the weight of the crop. Each cutter has one pint of milk per day. The women employed in hay-harvest have 6d. During corn-harvest, men get according to their age and strength, from 1s. to 1s. 6d. a-day, and women 10d., without any other allowance. It is customary with some farmers, at the Tain Midsummer market, to engage women for the harvest at 28s. victuals and lodging being provided for them*. Other farmers engage the people in their neighbourhood, and pay them with five firlots of meal. These terms are for the whole duration of the harvest, which often takes from twenty-five to thirty-five working days.

"Within these twelve years, the money wages of farm servants has nearly tripled; the allowance of meal has continued nearly the same. The price of day labour in the same period has increased about one-third.

"Hours of work vary a little. My servants in the long days are out with their horses at five o'clock in the morning till nine. From ten to one they work at bye-jobs. From two till seven o'clock they are out again with their horses. During the short days they are out two yokings, with an interval of one hour. Some farmers have no bell, and go very irregularly to work. Some, during the long days, begin at six in the

* I apprehend that Captain Munro has made a mistake here, as I have been informed, that when the above sum is paid, no victuals are given—at least in the western districts.

the morning and leave off at six in the afternoon, with an interval for breakfast and another for dinner. Day labourers work during the same hours.

"Ditching and draining are done by the yard. When the ground is stony, at from 2d. to 3d. per cubic yard. Drains three feet wide, and as many deep, and eighteen inches broad at bottom, cost from 9d. to 1s. 1d.; and smaller ones from 5d. to 7d. per fall, of six yards. But the price varies according to the soil; the rule being to calculate that a good workman may make from 1s. 6d. to 1s. 8d. per day of ten hours. Trenching is done at from L. 8 to L.10 per acre when the ground is very stony. Stone dikes without lime are built for 6d. the running yard, 4½ feet high, with two turfs on the top. Facings of sunk fences, 4½ feet high, cost 3d. per running yard. In these cases the stones are laid ready for the builder."

Mr Mackenzie of Allangrange observes, that he found on inquiry so much variation in the prices of labour in the Black Isle district, that his report must be considered as imperfect. "We have not," says he, "systematical farmers from the south country settled in this quarter to adopt rules, and regulate the just appreciation of labour. The gentlemen get their operations carried on by their cottars and dependants, according to agreement for their crofts, and the work is chiefly demanded during hay and corn harvest. The common tenants employ very few hands in their farm labours, depending chiefly on their own personal industry and that of their children. Farm-servants' wages vary from L.7 to L.9 per ann. six bolls of meal, four bolls of potatoes, or else as many as they can raise from the manure they collect; the master dresses and gives

gives the land for the dung. They have an allowance of 24s. for firing, and also a small plot for a garden. The price of day labour varies from 10d. to 2s. During winter it is a little less. Women-servants have L.3 per ann. and victuals. To women, and boys and girls, for hoeing, clearing fields of stones, gathering potatoes, or the like, we give from 4d. to 8d. per day.

Stone dikes are built 4½ feet high and coped, for 5d. and 6d. per ell. For open ditches, five feet wide, three deep, and two feet wide at bottom, I pay 3d. per ell. For small drains, three feet at top and as many deep, and ten inches at bottom, 1½d. per ell. generally pick work. For scouring drains from three to four feet wide at top, three feet deep, and 1 at bottom, grassy, and wet, and clayey soil, 1d. per ell. For larger ones, ten feet wide, &c. 2d. per ell. Trenching fourteen inches deep 1s. per rood of six yards.

"The price of labour has advanced rapidly during the last five years to nearly double for most kinds of work. Being in the vicinity of Inverness, I find difficulty in procuring good workmen, even at the above rates."

The prices of provisions in the first or centre district, Captain Munro states as follows: Butcher meat is generally sold from 1d. to 1½d. lower than the Inverness market-prices; fowls and ducks from 8d. to 10d. each; butter from 21s. to 24s. per stone, of 21 lbs. dutch; cheese from 8s. to 10s. per stone.

In the other district, and in almost every other part of the country, the Inverness prices are the rule for provisions.

Fuel is a very expensive article in this country. Peats are used wherever easy access can be got to good mosses; and in some districts the expence of

procuring peats is enormous. Coals are a much cheaper fuel. The country is very regularly supplied from Newcastle. Coals are sold by the barrel of ten Scotch gallons, at from 2s. to 2s. 6d. It is very difficult, I may say impossible, to get servants to be economical in fuel; and, in consequence, much waste is experienced in every family. A very economical method of using the dust or dross of English coals, is to mix it with clay. Let a quantity of clay be soaked in water till it falls down, and then let double its quantity of dross be mixed with it. When sufficiently stiff, let it be made into square or round pieces, about the size of the fist, and then dried. These lumps are to be used as if they were entirely coal.

CHAP.

CHAP. XIV.

SURVEY OF THE WESTERN DISTRICTS.

THE general aspect of the whole western coast is mountainous and rugged. The southern districts are infinitely superior to those to the northward of Loch Carron, in respect to the value of the surface. Although there are many vallies and gently sloping sides of hills, which might be cultivated with advantage, were they situated in any other part of the county, the climate to which they are here subjected deters the inhabitants from sowing corn crops extensively. During March and April the weather is commonly favourable for the operations of the husbandman. But his anxious labours are but seldom rewarded by his being enabled to gather the fruits of the earth in perfection. During the autumnal months, rain falls in such quantities as to lay the ripening corn flat upon the fields, and to swell every trifling stream into a torrent, by which the fields are often stripped of their produce, and sand and stones are substituted. The inhabitants

inhabitants are well convinced of the unfitness of their climate for raising crops of corn and hay. But as, like other men, they have a natural desire to be independent, they make extraordinary exertions for satisfying it. We find what are called creel-barns every where erected. These are constructed partly of stone, with large apertures in the walls, which are filled up with wicker-work. Sometimes they are made entirely of wicker-work, except the roof, which is always close. In such barns the crops are lodged for drying; and when, from the free circulation of air, they become sufficiently dry, they are stacked out of doors.

In order that I might give some idea of the quantity of rain which falls throughout the year, I have been favoured with the following abstract of a register kept in Lochalsh, from the 1st of August 1807 to the same day in 1808.

	Fair days.	Rain or snow.
August	4	27
September	6	24
October	2	29
November	5	25
December	12	19
January 1808	10	21
February	6	23
March	16	15
April	12	18
May	25	6
June	25	5
July	20	11
	143	223

The

The soil of the mountains and valleys is various. The latter is mostly alluvial, and partakes in general of the nature of that of the mountains. In many places, there are evident marks of the sea having been formerly much higher than it is now. On the east, as well as the west coast, horizontal beds of sand and shells are found, upwards of fifty feet above the present high water mark. At the head of the bay of Applecross, the soil is sandy. On the elevated parts on the south side of the bay, the soil rests on limestone, and, though thin, produces good and early crops. At Keeshorn, the soil is of the same description, and very fertile. The soil of Terridon is light and gravelly, with the exception of some patches of moss, which have lately been brought into cultivation. At Loch Carron, we find considerable variety of soil in a narrow space. On the flat spots along the shore, it is light and stoney. On the higher and sloping ground we have sandy loam; and at the head of the bay, loose soil, in which clay prevails. On the western shore of Applecross, opposite to the island of Rasay, there is a large bank of sand, composed of broken shells and corals, which have been forced on shore by the action of the winds and tides. This has long been successfully used as a manure.

Estates, &c.—Of the parishes of Loch Carron and Applecross, Mr Mackenzie of Applecross is the principal heritor. Mr Mackenzie of Terridon, and Sir Hector Mackenzie are the other heritors of Applecross; and Mr Matheson of Attadale, and Mr M'Donald of Court-hill those of Loch Carron. All the estates in this district are held of the crown, except Terridon and Court-hill, which are held of Lord Seaforth. With the

the exception of Sir Hector Mackenzie, each proprietor has a good house on his estate. Mr Matheson is the only one who resides on his property. The house of Applecross is large, and in good repair, and has a good garden attached to it, well stocked with fruit-trees. The place is sheltered by a considerable number of fine full-grown forest-trees.

The estate of Applecross is managed by a factor, who resides in the house, and who, to every attention to the interest of his constituents, adds kindness and indulgence to the tenants.

The rents of the estate of Terridon are collected annually by a gentleman who resides at Dingwall, who goes to receive them at the term of Martinmas. The other proprietors have no factors.

The principal farmers of this district are well accommodated. The houses of New Kelso, Tullich, and Hartfield are exceedingly comfortable. Since the commencement of their present leases, many of the smaller tenants of the Applecross estate have built new dwelling-houses of stone and lime, thatched with fern or heath; but a great many of them are still very ill lodged, and do not seem to be desirous of being more comfortable than their predecessors. All the farm-houses are built and kept in repair at the expence of the tenants. In general, they have an allowance, payable at the end of their leases, in the event of their being removed.

Occupation.—The greatest number of farms in the parishes of Applecross and Loch Carron are occupied by small tenants, from two to twenty on each farm, possessing in common, though often in different proportions. This mode of occupation, though generally prevalent

prevalent over all the west Highlands, cannot fail to clog individual exertion, and to retard general improvement. When a field that has been depastured for several years is to be broken up, more time is consumed in forming divisions, and allotting the proportions for the different rents, than is required for turning up the land. Such a farm resembles a small republic, in which every public measure is settled by a majority, and where often more time is spent in debate than in action. The inconveniencies arising from such a system are sufficiently obvious. When each individual cannot permanently and exclusively reap the benefit of his superior exertion and industry, it is not to be expected that he will apply them with vigour.

There are a few farms of a considerable extent stocked with sheep and black-cattle. Upon the greater part of the estate of Applecross, the rents are moderate, and the people live comfortably. About sixteen years ago, the late proprietor, Thomas Mackenzie, Esq. gave to most of his tenants leases of twenty-five years' duration, on fair and liberal terms. So far was that enlightened and worthy man from wishing to impose on his people a rent which the land could not yield, that he let many of his farms for less than what was offered for them by the very people who now possess them. He was a better judge of the value of each farm than the people who possessed it; and, without paying any regard to the high offers of speculating farmers, he imposed such a rent as he knew the land could well produce, after allowing the tenants to enjoy some benefit from their capital and industry. The leases of a few farms expired some years ago. Large rents were offered, and immediately accepted; and, in some instances,

ces, the tenants are now made to pay four times the amount of the former rent. The consequence, as might have been expected, is, that the produce is not equal to the rent and expences, even under the best management. One tenant, after exhausting his capital, was obliged to give up his lease, for fear of insolvency; and his farm has again been let at a reduced rent. On the estate of Terridon, we have perhaps an unparallelled instance of the rapid progress of rents, and of the bad policy of overstraining them. In the year 1777, the whole of this property was let for L. 80 per annum; in 1781 for L. 130; in 1792 for L. 240; in 1798 for L. 300; and in 1805 for L. 800. But this last rent is merely nominal. As the proprietor is as benevolent and liberal a man as exists, his imposing a rent so much out of proportion to the real value of his estate, must have proceeded from his having been misinformed respecting it. He does not, like many other landlords, harass his tenants for payment of their rents; but such a weight of arrears as that which I understand has accumulated, must, even although it were nominal, cramp the industry of the possessors. The small tenants, who occupy shares of a farm on the coast, may be able to pay the rents imposed, not, however, out of the produce of their land, but out of the fruits of their industry in fishing, and probably also in smuggling whisky and salt. The situation of the tenants of Terridon exhibits, in a striking manner, how cautious proprietors ought to be in putting a value upon their estates, and in accepting high offers of rent.

Lochalsh.—The soil of Lochalsh may be divided into three kinds: shore-soil, that which extends round the basis of the lower hills, and which is also found in

in the valleys, and peat-moss. The soil which is found on the margins of lochs, and round the heads of bays, consists of sand and rounded stones, mixed with a small proportion of argillaceous and vegetable matter, which has been increased by cultivation and the application of manure. The proportion of these substances increases with the distance from the beach. The names of some of the fields shew that they were once surrounded by the sea, such as Ard-na-core, the point of herons; Filagan, the resting place of gulls; which are fields that have long been in cultivation. The shore-soil, when well manured, yields excellent crops of barley and potatoes. Oats soon after being sown upon it have a very promising appearance; but before harvest, are overtopped by a luxuriant growth of natural vetches. As the soil is very loose, and the bottom or subsoil pure sand, the effects of manure are of short duration. After a crop of potatoes, the land requires to be dunged a second time for barley.

The soil about the bases of the hills is a light loam, of a reddish colour, which, under good management, produces very fine crops. Much of this kind of soil seems to have been cultivated by former generations, for evident traces of the plough are found on land now producing heath, and so high, that it might reasonably be doubted whether corn would ripen in such situations. The traditions of the country respecting the low lands near the sea-shore, seem to prove that they were formerly covered by trees. An old man who lately died at the age of 95, said, that when he was a boy, he saw a field so thickly set with growing trees, that he could easily step from one to another.

Attempts

Attempts were made, many years ago, on a small scale, to improve peat-moss, by planting potatoes in it with sea-weeds; but from the neglect of draining, and applying calcareous manure, the soil, after producing coarse grass and rushes, returned to its former state. Of late years, some patches of peat-moss have been improved more effectually. Drains have been cut, and the moss formed into lazy-beds for potatoes. Sea-weed was the manure employed, and the produce was generally from eight to ten returns. The beds were afterwards united two and two, and luxuriant crops of oats were obtained. For one or two years, the beds thus united are worked by the *caschrome*, an instrument which, of all others, is best adapted for the purpose; and great care is taken to keep the drains and furrows clear. Several successive crops of oats are sown; and if grass-seeds are put in, the crop of hay, though not of superior quality, is very large. Shell-sand is used at first; and after the moss has lain a few years in grass, it acquires solidity, and is again covered with the sand. By repeating this sort of course, the improved soil acquires a sufficient depth for the plough. In this manner, the Rev. Mr Downie (to whose assistance in this part of the survey I owe a great deal) has converted several acres of his glebe and farm into productive soil, from bearing nothing but heath and coarse bog-grasses. There are many tracts of moss on the west coast which might be improved by the method adopted by Mr Downie. The use of lime might hasten this improvement; and as there is great abundance of limestone on the coast, it might be burned by peat fires; but the great quantity of shell-sand which is found in many places has hitherto prevented

vented the inhabitants from thinking of lime. At the extremity of the peninsula of Lochalsh, and along the adjoining coast, this sand is found in great abundance. It was discovered about fifty years ago by the late Mr Ninian Jeffrey, a gentleman of much intelligence and observation, who came from the south of Scotland to superintend a spinning factory at Loch Carron, which was set a-going by the board of trustees for manufactures, &c. On discovering the bank of shell-sand, Mr Jeffrey immediately began to apply it to his farm at New Kelso. Though at first his neighbours considered him a little whimsical, and though they began to lament the apparent derangement of his intellects, a sense of interest, excited by the wonderful effects of this new manure, soon led them to follow his example. Lord Seaforth, with his usual foresight and liberality, gave every encouragement to his tenants to carry away the sand to their farms. The present proprietor, I understand, has limited the use of it. There appears to be no risk of the bank ever being exhausted by ordinary consumption. The bottom of the sea, for many miles around, is formed of the same materials. On the coast of Applecross, at the distance of ten miles from Lochalsh, large banks of the same sort of sand have accumulated.

The tenants of Kintail and Lochalsh, in consequence of the encouragement given to them by Lord Seaforth, by leases executed in the year 1793, continued to carry away the sand after the estate of Lochalsh was sold; and they objected to the demand of payment made by the present proprietor, during the currency of their leases. The affair was carried before the Court of Session, and is not yet, so far as I know, finally

finally settled In the meantime, the court permitted the tenants to use the sand as formerly. Although the task I have undertaken demands, that I should state every thing connected with the improvement of the country, even at the risk of giving offence to individuals, I must decline entering farther into this subject, or making any observations on the information I have received respecting it. For although I have applied to the proprietor, I have not got from him any information on the subject of the new mode of management which he has adopted for his estate. There are generally two ways of representing the nature of a dispute. And as the beneficial effects which followed the fostering protection of the Seaforth family were still before the inhabitants, at the time when a change of measures took place, it is probable that this may have occasioned comparisons unjustly severe. I must also observe, that the people in general do not blame the present proprietor, except for having followed the advice of persons whose knowledge of the proper mode of managing a highland estate was imperfect, or who were not aware of the gentleness necessary to be employed in effecting a change, which, when rudely and unfeelingly done, tears the hearts of the people, and excites indignation in every breast. I am sufficiently acquainted with the gentlemanly manners, and the benevolent intentions of Mr Innes, to be able at once to repel the charges which have been rashly made against him. I knew that he could not long suffer himself to be misguided; and the universal joy which has been occasioned by his having shaken off the trammels by which he has been supposed too long held, is, I am confident,

confident, a faithful indication of the respect in which he is held, and of the hopes entertained of the effects which are likely to follow the exercise of his own sound judgment.

Of late a mode of letting Highland estates has become fashionable, fraught with mischief, which must ultimately fall upon the proprietors. Indeed the mischief has already been extensively felt. When an estate is out of lease, pompous advertisements are published in the newspapers, (gratifying no doubt to the vanity of the proprietors) in which the number of farms, and the number of acres of which each consists, are carefully displayed, and beauties and advantages, often ideal, are held out to induce farmers to come forward with offers. A promise is made, though seldom if ever kept, that the names of unsuccessful candidates will be concealed. There are speculators in farming, as in every other profession, and on reading such advertisements, numbers of them make inquiries, and travel to see the farms so magnificently described. They are sure that they can afford to offer a great deal more for the farms than the old occupiers; and in making their proposals to the landlord, they too frequently exceed the bounds of moderation and common sense. Notwithstanding this, they are often disappointed; for it sometimes happens, that a Highland proprietor is anxious to retain his popularity, at the same time that he squeezes up the rents of his estate. He tells the old occupiers, that he has been offered so much for his lands, but that he cannot think of removing them, if they are ready to give what they must, as he supposes, know to be the value of their farms.

I know many striking examples of the dismal effects of giving what is called a preference on equal terms. I have myself experienced them to a certain degree, and, on that account, reckon myself fortunate, since my experience has been gained at an early period of my life. I have been grossly mistaken for once, and I trust that others will feel, and as readily acknowledge their error. Though the number of my tenants was but small to whom I offered so cruel an alternative, and though they and I have suffered but little, that little has been of infinite use to me; and though I cannot accuse myself of having told any thing but truth to my tenants, when I mentioned to them what I had been offered for their farms, yet I cannot help disburdening my mind of my sentiments on this subject, although in doing so I carry home condemnation to myself. The alternative to the tenants is severe in the extreme. They must give an additional rent or they must remove. If they remain, ruin soon stares them in the face, at length overwhelms them, and they and their families are reduced to beggary. If they remove, they must descend to the cultivation of waste land, in order to earn a wretched subsistence, or they must go to America for the chance of independence, leaving their merited curses behind them.

No exaggerated picture of distress can be drawn to convey to the feeling mind the horrible consequences of such conduct as has been mentioned, towards a numerous tenantry. Whatever difference of opinion may exist respecting the necessity of reducing the number of occupiers of land in the Highlands, there can exist but one opinion on conduct such as has been described; that it is cruel, unjust, and dishonour-

able, especially if, as too often happens, the old tenants are falsely informed of offers having been made. Such a deception is so mean, that its having been ever practised is enough to bring indelible disgrace upon us all. Having acknowledged my error, and expressed my sentiments honestly, I trust that I shall be excused for saying, that at the time I exacted from the old occupiers the rent which I have been offered for my farm, I was convinced that, if they chose to be active, they could easily pay the rent, by applying themselves to fishing, and even profit by the farm. I am still of the same opinion, and must add that, about the time I let the part of my property to which I allude, and which I now occupy myself, the illicit distillation of spirits began to be practised on the west coast. Since that time, I have learned that none of the enterprising fishermen of the east coast and Murray frith have any connection with the soil, except that they may have little gardens; and I am satisfied that fishermen ought not to have the possession of more land than is sufficient to provide their families with vegetables for their homely board.

The mode of letting Highland estates, which seems to be the least objectionable, is, that the proprietor should inform himself well of the real value of his lands, taking into consideration the fluctuation of markets. After he has parcelled out his estate into farms of proper extent, he should fix the rent, and offer them accordingly to the old occupiers, or to whom he pleases. When a proprietor acts in this manner, there will be an eager competition for his farms, and he will have it in his power to choose men of respectable character, industry, and capital, to be his tenants.

The

The present mode of letting farms in general, is a sort of private roup or auction, the transactions of which are equally dishonourable with those which in this country are known to obtain at many public ones, both among the rich and the poor, where some person or persons are employed to bid, in order to raise the prices of what is exposed to sale. In the case of a farm, the landlord takes the office of "White-Bonnet" upon himself.

Instances of the effects of attempting to retain popularity, at the expence of the old tenantry, could easily be enumerated. But it is an unpleasant task to detail scenes of misery and ruin. I could with less reluctance select some examples of the effects of letting lands to the highest bidder. But as this disease generally brings with it a remedy, (which, however, has not always the proper effect) it is unnecessary to enter into particulars.

It may be remarked, in general, that in order to recover rents from the old occupiers a little in arrear, or even such as have been due for a long time, a prosecution before a court of law is not always the wisest method to employ. If the defendant unfortunately chooses to appear in court, he must sell all his stock to pay expences. If he should not appear, his case is if possible worse. Judgment is pronounced in his absence, and ultimate diligence is employed against him. His cattle are sold; he is driven from his house, and he and his family are obliged to depend on the charity of the benevolent for bread to eat. The interference of the laws wisely established for protecting the rights and liberties of this blessed country, may thus, through the vanity or caprice, or some worse passion of a factor,

tor, or through the ignorance of a landlord, be converted into a powerful engine of oppression and extortion. I feel ashamed that such practices should exist in a country where my lot is cast; but since the management of estates is a subject on which the Board requires information, I have no hesitation to execute, as far as may be useful, so unpleasant a task as that which I have undertaken. It is some consolation, however, to think that the exposure of the existence of such proceedings as those of which I have given an outline, may remedy an evil which probably admits of no other cure.

In the year 1794, the estate of Lochalsh was let by Lord Seaforth at the rent of L. 1200 Sterling. It was divided into sixteen farms, which yielded different rents, from L. 30 to L. 130. For several years, the whole was stocked with black-cattle, and at present only two farms are under sheep. The tenants of each farm were allowed one year's rent, payable at the end of the lease, for houses and stone inclosures. It is highly creditable to the tenants of this property, that they have expended much more money in building, than what they have been allowed by their leases. The effect of letting land for a longer period than is generally done, is always observable in the increased exertions and activity of the tenants; and when landlords are liberal at first, their outlays for the comfort and convenience of their tenants quickly return to them. The leases of the property under consideration were formerly very short; and the consequence was, that, with the exception of a small inclosure, built by the late minister, who had a liferent lease of his farm, there was not a stone inclosure on the

the estate of Lochalsh. The present minister, Mr Downie, who obtained a liferent lease of his farm, has built several creel-barns, and inclosed with stone dikes and sunk fences about thirty acres, the whole expence of which amounted to more than double the sum allowed him. Mr M'Donnell of Barrisdale, on his farm of Auchtertyre, for which he pays L. 130 per annum, has laid out about L. 700, though he cannot claim more than one year's rent at the end of his lease.

In a country naturally more adapted by aspect and climate for grazing than agriculture, long lines of stone dikes are necessary for separating from each other the pastures adapted for different seasons of the year; and these must be executed at a considerable expence. On account of the shortness of the old leases, and suitable allowances being withheld, such lines of separation have hitherto been formed of turf, the cutting of which destroys a considerable portion of the most valuable land; and the inclosures require annual, indeed constant repair, in executing which much time is expended which might be more profitably employed.

The expence of a dwelling-house suitable to a farm of L. 200 rent, built with stone and lime, and slated, is, in this part of the country, at least L. 400. The offices, consisting of barns for securing hay and corn, byres, stables, kiln, and houses for servants, will cost about L. 300. A like sum laid out on inclosures is probably less than might be expended with benefit. Thus, a farmer settling on an unimproved farm must make an immediate outlay of at least L. 1000. The cost of his stock, utensils, &c. will amount to twice as much. From the first sum he can expect no return; and for three years he cannot possibly obtain from his stock what will defray his rent and

and expences, and the interest of his capital. Nothing but a long lease, with a certainty of being refunded for buildings which may be of more use to his successors than they have been to himself, (if the landlord does not himself erect the necessary buildings) can tempt a tenant to so great an outlay of money. To those who are unaquainted with Highland grazing, the above statement may appear extravagant; but to those who understand the business, it will probably appear too low.

There are cottagers on all the principal farms: They have a portion of land allotted to them for planting potatoes, and for this they return some services in assisting to secure the crop. They live principally by fishing herrings when the shoals set into the lochs in autumn. Four of them generally have a boat, and all of them have herring-nets. At other seasons they are employed as labourers. When the herrings are abundant, the cottagers often earn more in a few weeks than labourers can do in a year. But their industry is much cramped by the rigid administration of the salt laws.

The Seaforth family never had a house in Lochalsh; their residence was castle Donan in Kintail. After the battle of Glenshiel in the year 1719, the castle was blown up, and it has since remained a ruin. At Balmacarra, Mr Innes has built a very good house close to the sea, and he is exerting himself in planting and laying out the grounds about it, which afford ample scope for a good taste in landscape-gardening. The scenery in the neighbourhood is mountainous and grand.

The parishes of Kintail and Glenshiel occupy the most southern part of Ross-shire. The climate is nearly

nearly the same with that of Lochalsh, except that, as the mountains are higher, they attract the moisture of the Atlantic Ocean more powerfully than those of the former district. The whole of this district is naturally adapted for grazing Formerly it was famed for an excellent breed of black cattle, which has since been displaced by the black-faced sheep. Such portions of the soil as are accessible to the plough, produce very good crops of oats. On the whole, the quality of the soil, and pasture of the district, seems well adapted for a stock of the finer breeds of sheep; and it is the intention of Mr Kenneth Mackenzie, who lately purchased part of Kintail from Lord Seaforth, to stock his property with the Cheviot breed.

There are many tracts of flat moss which seem to be very capable of improvement, were proper encouragement given to the tenantry. But as the climate is adverse to the cultivation of corn crops, the principal attention of the farmers is devoted to the culture of potatoes, which is now very successfully practised. The small tenantry along the coast, and the inhabitants of the villages of Dornie, Plocktoun, and Jeantown of Loch Carron, subsist chiefly on potatoes and herrings. When the latter are not plentiful, many of the people are distressed by want of food. It is hard upon the proprietors in this quarter, that their exertions in collecting the people into villages are not properly seconded by Government in the encouragement which ought to be given to the Loch fishings. Jeantown yields at present triple the rent it did some years ago, when the site was part of a farm. Plocktown yielded L. 16 at the time when Lord Seaforth erected the village. It afterwards yielded

yielded L.28, and now the rents amount to about L. 100 per annum, and are nearly at the rate of L. 6 per acre.

About forty years ago, a basket of potatoes was esteemed a valuable present. By degrees their value increased, and the cultivation of them is now carried on in the most approved manner, sea-weed being principally used as manure. This addition to the means of subsistence has had a wonderful effect on the amount of the population. The Reverend Mr Downie has stated to me as a fact, (and a very important one it is, for the consideration of those who seem alarmed for the decrease of the population) "That within the last sixty years, *notwithstanding the drains by emigration to America*, and for the supply of our armies, the population of all the parishes within this district, and generally along the coast, *has more than doubled.*"

The mode of ploughing which was formerly general over the whole of this country, and which is still practised by the small tenants, is somewhat curious. The plough was extremely rude. It was drawn by four horses abreast. Between the plough and the horses was a long apparatus of twisted birch twigs, by which they were united. The halters were fixed in four holes made in a piece of wood about six feet long, which was held by the driver, who was thus enabled to pull all the horses at once, and encourage them to move forward, by occasionally applying his stick to their noses. He walked backwards with his face towards the ploughman, and directed the breadth of the furrow slice. A man attended, whose office was to keep the plough in the ground, by pressing on the end of the beam with his whole weight. A fourth followed with a crooked spade, with which he turned over

such

such parts of the ground as the plough had missed, and he also turned over such slices as had fallen back.

The seed was scattered in great profusion, and slightly covered by means of harrows with wooden teeth. These were fastened by birch twigs to the tails of wild young horses, which were thus first accustomed to labour. There are many of the country people who still disapprove of harrows with iron teeth, because they tear up the roots of the grass*. Mr Downie was the first person who introduced an improved plough, worked by a pair of horses without a driver. This was done only about nineteen years ago, and caused great astonishment among the natives.

Small's plough is now generally used among the better description of farmers; and the natives use a wooden one, which has a distant resemblance to Small's. A few farmers follow regular rotations of crops. The most common is, 1st potatoes or turnips, or both; 2. barley with grass seeds; 3. hay; 4. oats. Sometimes the rotation is extended by taking two crops of hay. Barley is the crop which seems best adapted to the climate and soil of this part of the country; and in general the grain produced is remarkably fine. Turnips are now reckoned by far the most important crop. Mr Downie, with that spirit which has all along marked his character as a farmer, raised the first acre of field turnips ever seen in this district, about thirteen years ago. There is still room for the extension of the culture of turnips. The proprietors certainly ought to enable their tenants

* Many of the principal farmers of East Lothian use harrows with wooden teeth for covering grass seeds, sown on wheat land in spring.

nants to enclose their arable grounds effectually; for the Highland breed of cattle disregard ordinary fences, which are not sufficient for preventing their depredations.

Cattle.

Kintail and Lochalsh have long been famous for producing a very superior breed of Highland cattle. They are not remarkable for size; but for their shape and hardiness. The cattle now reared maintain the character of their progenitors. The best stock in Argyleshire were originally formed by purchasing at markets the best cows sent from this country, and from Skye. By a regular system of rearing, the inhabitants of Argyleshire have increased the weight and rendered their cattle of superior value. Perhaps it would have been imprudent, at so great a distance from markets, for the farmers of this district to have followed the example of their neighbours in Argyleshire. But in these times, it is undoubtedly of importance to increase the size, and to preserve at the same time the shape and general figure of the cattle.

The cows generally produce their first calf at the age of four years.

While the price of cattle was low, it was the practice to kill half the number of calves, and to allow one calf to suck two cows. In order to accustom the cow whose calf was killed to that of another, the latter was covered with the skin of the one killed, when sent to the cow; and by degrees she became fond of the stranger. By this means the calves were well reared; the cows were kept in better condition, and the surplus milk compensated the loss of a calf. One cow, besides rearing a calf, generally produces one stone of butter,

and

and two stones of cheese. The calves are always allowed to suck. A certain portion of milk is withdrawn, and the calf then allowed to take the rest. It would appear that the cows have the power of retaining a proper share of their milk for the calf. I have often observed, that all the exertions of a dairy-maid could not extract above a certain quantity, and that after the calf has been permitted to go to the cow, it has found abundance to satisfy its appetite.

Since cattle have become more valuable, the system of coupling has been given up, except in the case of young cows, which are not allowed to rear their calves singly. It is thought, that permitting a cow to suckle her first calf, hinders her growing, and often prevents her having a calf the next year. Under this mode of management three cows, each rearing one calf, produce as much milk for the dairy as two cows with one calf. The cows calve from the middle of March to the middle of June; but the early calves are always esteemed the best, and easiest to rear. Between the first and twelfth of November the calves are deprived of milk, and the cows are sent to winter pasture. This is preserved from the 1st of August.

The calves are at the same time put upon fine pasture, where they remain till the first fall of snow, which generally happens early in December. They are then housed, and fed till May with oat-straw, hay, potatoes, and turnips. The two latter articles have been found very effectual in preventing diseases, especially that called in this part of the country black-leg, which formerly carried off many of the calves during winter.

To each farm is attached a hill-grazing, in many cases at the distance of several miles, to which the young

young cattle are sent towards the end of spring, or early in summer, and remain till September or October, when they are forced by bad weather to leave it. The one year old cattle are suffered to remain on the low farm, and generally feed separately on the higher and coarser parts of the pasture.

The low farms are commonly divided by fences into two or more parts. About the middle of November, the cows in calf and the stirks of the preceding year are put into the winter division, the grass of which has been preserved from the beginning of August, and remain there till the beginning of May, when the milch cows are put into the other division. Here they remain till the grass of the first division has sprung; and afterwards they are shifted from one to another, until they finally leave the winter division in August, that it may be preserved for winter grass.

The young cattle from the hill farm remain during winter on the division which was occupied by the milch cows during autumn, which is then called the *commonty*. Here, the pasture being scanty, they are occasionally fed with straw or hay.

The heavy cows seldom get any provender till they drop their calves, except when snow is on the ground, when a little hay is given to them. After calving they are fed till the grass springs. The young cattle rising two years are frequently fed during spring. This general system is, however, often varied by local circumstances.

In former times, the stock on cattle-farms was much heavier than it is now; and the consequence was, that vast numbers of animals died of want during severe winters. It is a well known fact, that, thirty or forty years

years ago, as many cattle died on one farm, during one spring, as the whole stock now amounts to. By diminishing the stock, and increasing the quantity of winter food, serious losses are not now felt.

When there is an early demand for cattle, the drovers from the counties of Perth, Stirling, and Dumbarton, come to this country in March or April, and purchase such full grown cows and heifers as do not prove to be with calf. Such cattle have been bought for from L. 6 to L. 12 Sterling. In the month of May there is generally a demand for milch cows, which sell at from L. 8 to L. 15. Stots are sold during summer and autumn. But the price is very variable. Some years ago stots of two years old, from the best stocks, were sold for upwards of L. 7. But of late there has not been much demand for them *.

The principal demand for cows takes place about Michaelmas. After they have reared their calves, they are sold lean, from eight to ten years old. The price is from L. 5 to L. 9. The difference in the value of cattle arises from the difference in the degree of attention bestowed on them by the principal farmers and small tenants. There are regular markets held in this district; but the drovers prefer going through the country, and purchasing cattle at the houses of the farmers.

No description can convey to a person unaccustomed to examine cattle, a proper mode of distinguishing a good from an ordinary cow; and the same may be observed with respect to bulls.

The

* Since this was put into the hands of the printer, there has been a sudden and extraordinary demand for black-cattle all over the Highlands.

The weight of the stot from three to five years old, when lean, may be stated at 70 to 80 lb. av. per quarter; average price from L. 4 to L. 7. Weight of the cow, when lean, from six to nine years of age, may be stated at 60 to 70 lb.; average price from L. 4 to L. 6. (Breeding cows often fetch L. 15.)

Weight of the stot when fattened, from 100 to 110 lb. per quarter.

Weight of the cow when fattened from 95 to 100 lbs.

Time required to fatten to that weight, on the best food, from four to five months.

Until lately, no attention has been paid to planting trees in this district. There are several patches of natural fir-wood on the estate of Applecross. Mr Innes of Lochalsh has, of late, planted a considerable number of trees of different kinds, which appear to thrive well. At Loch Carron, a considerable tract of oak coppice has been inclosed, and also a small space at Lochalsh. In Kintail, there are some fine oak and ash trees on the property of Mr Kenneth Mackenzie of Inverinate. No improvement can be of more importance to this part of the country than planting. The scarcity of timber is very much felt. A fir-tree, which would be valued on the east coast at one shilling, would here be sold for three shillings.

Some years ago, the Rev. Mr Downie brought several hundred forest-trees from the eastern part of the county, and planted them along the fences, where they thrive well. To convince the minister that, after being at so much trouble, he had no right to reap where he had sown, the proprietor sent his gardener and assistants last year to prune and dress the trees, which appears

appears to have annoyed the planter and his neighbours very much, and to have made them resolve to plant no more. There can be no doubt that pruning is necessary; but there can be no hardship on the proprietor in allowing tenants to manage such trees as they may choose to plant in their own way, if that will encourage them to plant more.

Parishes of Lochbroom and Gareloch.

The aspect, soil, and climate of these parishes are the same, generally, as those of the southern districts, which have been already described. The quality of the mountain-pastures, though in many places exceedingly good, is, in general, inferior to that of the other western parishes south of Loch Carron. The occupation of the land is similar, except that more is devoted to sheep; and the resident proprietors keep considerable farms in their own hands. Of the rents of this district, about L. 3500 are at present paid from the grazing of black-cattle, and about L. 2000 from sheep-farms. But as the whole district of Coigach is about to be let, as the fine farm of Inverlael is out of lease, and the lands in that neighbourhood are nearly so, a large addition will probably be soon made to the latter sum.

The business of farming is but ill understood; and it certainly is surprising, that proprietors and the holders of long leases, though of an old date, should have their lands in very bad order, and stock of a quality inferior to that which their ancestors possessed fifty years ago. There are a few exceptions no doubt; but the attachment to ancient customs is nowhere more strongly fixed than in this district. The time, however,

however, has at length arrived, when the people must shortly change their habits, or quit the country. The labour which is required for small farms, occupies but a small portion of the time of the tenants; but they are so perversely indolent and careless, that while they see people from Inverness and Argyleshires, who, in their own counties, pay much higher rents, employed in fishing, making kelp, &c. and receiving high wages, none of them can be engaged for such labour. This is the case in general; and although, from my connection with this part of the country, I may have remarked the habits of the people more particularly than elsewhere, yet, from the various testimonies I have received, I can safely assert, that the censure of indolence is not applicable to the inhabitants of this district only.

With all their defects, the people have numerous good qualities, which, under proper management and judicious direction, might become the source of comfort and wealth to themselves, and to their superiors. In honesty and sobriety, the people of the west coast are far superior to their inland neighbours; and were their situation improved, by proper attention from the landholders and government, I have not the smallest doubt that they would become, instead of being a reproach, the pride of the country.

It gives me much pleasure to have it in my power to record an example of activity and good management, so worthy of the attention of all around him, as that of Mr John M'Intyre of Letterew. This gentleman has an extensive sheep farm; and he has most successfully turned his attention to the cultivation of the land about his place of residence. In every

 department

department of inclosing, draining, and management, he has evinced judgment and knowledge of the best principles of agriculture.

Houses of Proprietors.—These are not very commodious in general. Although there is nothing remarkable about the house, Flowerdale, a beautiful seat of Sir Hector Mackenzie, Bart. is an exception. The situation of this place is not perhaps well described in the name. It is in the midst of wild and grand mountain scenery, finely varied with wood, and views of the sea. The access to it, being through a very rugged and barren country, renders the first view particularly gratifying to a traveller; but it would be remarked as a very beautiful place in the midst of the finest districts in the kingdom. Beautiful as it is, there is still ample room for the exercise of good taste; but it is so remote from society, and many indispensable requisites for a large family, that the worthy proprietor now spends most of his time at Conan-house.

The place of Dundonald was justly admired by Pennant. It possesses many natural beauties and advantages; but it is to be regretted that the woods are not properly taken care of.

Farm-Houses.—A few of the principal farmers are tolerably accommodated; but the inferior ones are not better lodged than those of other parts of the country, the same roof covering the family, and all the domestic animals belonging to the farm. In many cases, beds are slung above the cattle. The accumulation of their dung, which is removed but once in the year, the breath of the animals, and a combination of effluvia which defies description, renders the whole habitation

tation sufficiently warm, and, to the taste of the occupiers, abundantly comfortable.

Prices of Building, &c.—The farm-houses and inclosures being made by the farmers, their servants, and subtenants, there can be no price stated for such work. Ordinary mason-work is done for L. 8, 8s. per rood of thirty-six square yards; and when all materials are provided, the work is done for two guineas per rood. Stone-dikes, 4½ feet high, materials furnished, cost 8d. per yard. Turf-dikes, 5 feet high, 4 feet thick at the base, and 2 at the top, are done for threepence per yard. Slating, the slates, &c. being furnished, costs from 25s. to 30s. per rood.

When paid by the day, masons charge from 2s. to 2s. 6d.; dikers 1s. 6d. to 1s. 10d.; common labourers 1s. to 1s. 6d. When fed by their employer, they get three meals, and only deduct from the above wages from 6d. to 8d.; and in all cases they look for a morning dram. During summer, work begins between four and five o'clock in the morning, and ends between seven and eight. During winter, work is continued all day. The price of all kinds of labour has nearly doubled in twenty years.

Limestone is burned with peats, and when slacked sells at from 1s. to 1s. 6d. per barrel, containing 64 Scotch pints, or 32 English gallons.

The timber used for the better sort of houses is partly the growth of the country, and partly foreign. The former sells at 10d. per foot. At present, while our communication with the north of Europe is interrupted, the price of timber from that quarter is as uncertain as the supply. Formerly the price was 2s. 6d. per foot.

Dairy.—There is a practice in the management of the dairy, which is also prevalent in some other parts of the country, which accounts for the bad character of the cattle in this district in general. The farmers let their cows for the season to a person called a bowman. This person engages to produce for every two cows, one calf, two stones of butter, each weighing 24 lb. English, and four stones of cheese. There being no express stipulation as to the calf, it is generally starved to increase the bowman's profits. The subsequent treatment of the cattle is by no means calculated to counteract the bad effects of early starving, if indeed any management can obviate them. To keep the cattle from damaging corn, they are confined all night in tathing folds. During winter, their treatment is such, that they get food sufficient only to keep them alive.

Cod-Fishery of Gairloch.

This fishery has, from time immemorial, been the most constant and regularly productive of any on the the coasts of Scotland. This is probably owing to there being in this quarter the most considerable extent of clean sandy ground in the neighbourhood of the numerous banks in the Minch, where the fish find the best bottom and shelter for spawning, and abundance of food, consisting of small crabs, sand-eels, star-fish, mussels, cockles, &c. which are always found in their stomachs.

The fish are in full roe, and best condition, in January, when the fishing usually begins; and they regularly become poorer till fully spawned, which happens about the end of April, when the fishing ends. The size

size of the fish is small, but they are rich. They weigh, on an average, five pounds each, when cleaned for salting. They have usually been sent pickled, and also dried, to Ireland, Liverpool, and London, and were formerly sent dried to Spain. The natives of the neighbouring shores are, in general, exclusively occupied in this fishing. But from the difficulty of procuring bait, only about twenty boats, each having about 400 hooks, are employed. The average annual produce of this fishing for fifteen years has exceeded 20,000 cod. But were the fishermen to take but half the trouble some others do to procure bait, they might certainly double the produce. Indeed the offals of the fish taken might very well serve for bait. I have myself often caught the coal-fish, by using the offals and flesh of their own species, and the cod is not a less voracious fish. To those acquainted with the cod fishery, it will appear singular, that the fishery of Gairloch is never successful when hand lines are used. This is supposed to be owing to the fish finding their food at the bottom.

Messrs J. Nicol and Young are the fish curers. They are obliged to receive the fish taken, while they continue to be good. The fishermen are a class of people inhabiting the shores on the Bay of Gairloch, paying from one pound sterling, to two guineas of rent for land. They receive for each cod fish, measuring eighteen inches from the shoulder fins to the tail, 3½d; and for every ling measuring thirty inches as above, 5d. Sir Hector Mackenzie, the proprietor, gives the fishermen a bounty of twenty guineas, which is divided among the crews of the best fished boats, pointed out by a jury of the fishermen themselves.

He

He gives wood for boats and houses, and receives no other remuneration than ¼d per fish. But more than this, Sir Hector takes upon himself to make good to the fishers the payment due to them from the fish-curers, and takes the risk of not recovering it upon himself. By this he has lost many hundreds of pounds. What an example this is: Here we see a proprietor, not only encouraging industry by every ordinary means, but absolutely risking, and losing large sums of money, in the most laudable and noble exertions to maintain and support a trade most valuable for the country, and the people engaged in it. Such conduct is beyond all praise. That he has not met with assistance from the Board of Trustees, or by bounties from government, (which were once given, but withdrawn) must proceed from Sir Hector's own modesty, which has induced him to conceal his good deeds, even from his neighbours and friends, among whom I am proud to reckon myself, until, by my inquiries on the subject of the fisheries, I have fortunately brought them to light. I trust that he will not deem my praise flattery. But I cannot help raising my feeble voice and saying, that Sir Hector Mackenzie most fully deserves the gratitude of his country. Now that I have taken the liberty of publishing his great and patriotic exertions in supporting the fishery. I have no doubt of his gaining all the applause to which his very disinterested conduct so well entitles him.

Village of Ullapool.

About twenty-six years ago, the miserable and unimproved state of the Highlands attracted the attention

tion of the legislature; and it was fondly hoped, that something effectual would be done to encourage and promote the industry of the inhabitants of the remote districts of the west coasts and islands. At this period, Mr John Knox came forward, and, during a voyage among the Hebrides, conceived that he had discovered unknown treasures of herrings and other fish; and that all that was necessary for the important object in view, was the formation of societies, and the erection of villages and storehouses. In consequence of his suggestions, a society of noblemen, gentlemen, and wealthy merchants, was incorporated under the name of the British Society for extending the fisheries, &c. A considerable stock was raised by subscription, and almost all the members entered into the scheme with the most patriotic intentions. A court of directors was appointed, consisting of persons of the highest respectability, talents, and opulence, who entered on the management with all the zeal that could be desired, and devoted to it as much of their time as could be spared from their other avocations. Government seeing this business taken up by men of such notoriety, was naturally led to consider, that it could not be placed in better hands, and that any interference of the legislature was unnecessary. The saving of any advance from the public, was a motive no less pleasing; and every thing appeared to be in the best possible train for being well managed, and, so far as depended upon that, of being successful.

It is to be lamented that the schemes, entered into with a noble zeal for the public good, and the most benevolent desire of improving the condition of the inhabitants, have not been attended by the beneficial

effects

effects which were expected. It is evident, however, that the plans of the Society have been formed on mistaken data, assumed in consequence of information which, however incomplete, was confirmed by the reports of men of reputed knowledge and accuracy, and, among others, of Dr Anderson. Thus misled, the directors having no local knowledge, entered upon schemes which have hitherto produced nothing for the public good; and at present hold out but very faint, if any, hopes of future success.

It is always easier to point out faults than to remedy them; but, in cases of this sort, arguing from consequences is not in general unfair. It becomes necessary, in a report like this, to touch upon what has been unsuccessfully attempted, in order that errors may be afterwards avoided; and to consider what may yet be done to retrieve the past, and to bring substantial benefit to the people, and to the country at large.

The Society obtained feus of land in different parts of the Highlands; of which the most extensive is that where Ullapool stands. At this place the Society have expended above L.10,000 in erecting public works, such as a pier, an inn, storehouses, &c. on a scale rather more extensive than the infant state of the colony required, or the prospects of success warranted.

While the society and the public have been completely disappointed, the poor settlers have suffered in a greater degree. They were allured by the patriotic views and character of the directors, and by the advertisements and operations of the Society which, they believed, were begun, after the fullest inquiry, deliberation,

deliberation, and a conviction that success would follow. Many of them entered into the scheme with spirit, industry, and some capital, to which it is believed large sums of borrowed money were added; for the settlers have expended, on private buildings, nearly as much as the Society have done on public ones. The greater number of settlers having spent all the money they could command on buildings, a series of years of scarcity rendered them unable to support their families, without expending the remainder of their capital; which they did, expecting reimbursement from their labour and success in fishing. But a total failure of fishing for several years having happened, the whole inhabitants of this village have been brought to a state of abject poverty, and complete distress. From a dread of being starved, many of them have removed, and left their houses uninhabited. Those remaining are unable to support themselves, or to convert their buildings to any useful purpose.

The lowest classes are sunk in vice, and their baneful example is not tradily followed by the neighbourhood; and, on the whole, Ullapool may be safely termed a nest of wickedness,—and it is the only one in the counties which are the subject of this report.

Thus upwards of L. 20,000 have been, I may say, uselessly sunk; and this colony, which lately consisted of nearly 700 persons, has become a burden on the public, in a country where soil, climate, and many other causes, render the subsistence, even of the most industrious, not very easy to procure. The case would have been very different, had the views of the Society and the settlers been turned to some manufacture, and had the fishing been considered only as

a secondary object, which the people might have attended to, when prospects of success might induce them for a time to leave their ordinary occupation.

It is now apparent, that the Society began at the wrong end. It was tempted to give implicit faith to representations of the oppressed state of the inhabitants, and believed that they were kept by their landlords in a state of servitude, nearly allied to slavery. Something of this kind might, it is true, have existed in some particular situations; but by no means to the extent which the Society gave credit. To emancipate the people, and to excite an industrious spirit of independence, the erection of villages was considered all that was necessary. The Society engaged to assist the people with loans, in order to enable them to build good houses, which were to be the security for the money advanced, on the repayment of which, the buildings were to become the exclusive property of the possessors. Such advantages, with storeage for salt and casks, was all that was thought requisite; the produce of the adjoining sea being considered so abundant, that any ordinary exertion of industry could not fail to render the colony an opulent and thriving community. These expectations might have been realized in the vicinity of great manufacturing towns, such as Bristol, Liverpool, or Greenock. But had the scheme for Ullapool been considered with proper attention, it might have occurred, that some manufacture, or trade, was necessary, in the first instance, in an infant colony, and, that success in these, and emulation to acquire property, would soon procure proper accommodation. The money having been laid out; so many people having been rendered destitute; and

and the place going to decay; it becomes a matter of very serious consideration, what is to be done in order to restore every thing in such a manner that there may be a greater probability of success. The British Society, even under the mortifying disappointment which it and the public have experienced, will not probably abandon a place on which they have expended so much money *.

The herring-fishery of this coast having never been so regularly productive, as to induce people to rely on it entirely for means of comfortable subsistence, some manufacture seems to be the only proper resource for the excitement of industry, and for retrieving matters at Ullapool.

The manufacture of hemp into bagging, sacking, and other coarse stuffs, and cordage, presents every advantage desired. Without considering the practicability of cultivating hemp on the west coast, we may only look to the convenience and cheapness of transporting goods to Liverpool, Greenock, &c. where there is always a great demand for cotton-bagging, &c. for the West Indies. The buildings already erected, could, with a few additions and alterations, be made to suit for a considerable time. The women of the country are well acquainted with spinning, and many of the men are weavers. Persons from Inverness and Cromarty, or other places where the manufacture of hemp has been established, could be got at a moderate expence, to instruct the people in the different branches of the work.

In

* From the recent visit of William Smith, Esq. M.P. a Member of the Society, and one of the Commissioners for Highland Roads and Bridges, much may be expected.

In establishing such a manufacture, it will certainly be requisite, that the immediate conductors of it be partners in the stock, otherwise mismanagement might ruin every thing. In short, unless something of this sort be established, to keep the people from being idle, when there is no fishing, all the past outlays of the Society will be lost, and future ones will be in vain. It may be said that, where there are so many people, their wants will force them to be industrious. But what can be expected of people who, from long habits of idleness, and having long wanted any honest means of employment, have become vicious?—from people who have been long accustomed to support their existence and their vices by beggary and stealth? I hope that the directors of the British Society, with the same humanity and public spirit which first engaged them in plans productive (perhaps unavoidably), of so much public disappointment, and private misfortune and misery, will endeavour to retrieve the errors already committed, by introducing some manufacture, which, if properly conducted, will give beneficial employment to their now miserable villagers; turn their buildings to some useful purpose; conduce more to the prosecution and success of the herring-fishery, than leaving the settlers entirely dependent upon it; and, finally, realize all the important objects which have been in view.

In the report from the county of Sutherland, I have no doubt of the fishing establishment under the management of Mr M'Donald of Loch-Inver, (whose information has much assisted me in my view of the west coast), being particularly described. It is exactly such a one as those, which, I believe, would be included

included under the general system for the management of the fisheries which I have hinted at in another part of the Survey. There we see a gentleman of skill, capital, and of the most unwearied industry, managing profitably a set of people, who would otherwise have been lost to their country.

As the agricultural interests of the two counties, of the internal economy of which I have endeavoured to give a faint, but I hope a just description, are strictly connected with the industry and prosperity of the inhabitants of every part of them, I conclude by imploring the Board to attend to what I have said in the following chapter respecting the fisheries. It is *impossible* for the natives to become all at once able to encounter the dangers of the open sea; and therefore I consider the last act of parliament, for encouraging the white herring fishery, somewhat prejudicial to the interests of this country, unless it shall soon be accompanied by another to protect and encourage the loch-fishings, by which the people may be gradually taught to be bold and hardy sailors. Without this, the existing law will throw the fisheries entirely into the hands of strangers, and our people will be lost to us and to the country.

CHAP.

CHAP. XV.

POLITICAL ECONOMY.

CIRCUMSTANCES DEPENDENT ON LEGISLATIVE AUTHORITY.

SECT. 1.—ROADS.

THE roads through the cultivated parts of the country have always been good, although there were no other means for making or repairing them, than the ordinary statute-labour. About three years ago, a bill for converting the statute-labour into money was drawn up; and, after having been submitted to the gentlemen of the two counties, it was carried to the House of Commons, and afterwards passed into a law. By this act, the post-road, extending from the borders of the county of Ross, near Beauly, to its termination at the frith of Dornoch, is to be made turnpike; and authority is given for the erection of toll-gates every six miles.

The

The materials for making roads are found everywhere in abundance; but the number of bridges required renders the expence very great. The roads to be made by government and the Highland counties conjunctly, will cost, on an average, about two hundred and fifty pounds per mile, though the breadth be only fifteen feet.

The farm-roads are not in general good. Few indeed are necessary, as the public roads, for the most part, conveniently intersect the arable lands.

The roads through the Highland parts of the counties (if roads they can be called) are very bad. They are all about to be renewed. The road from Contin to Loch Carron has been begun.

SECT. 2.—FAIRS AND MARKETS.

FAIRS, markets, and trysts for cattle, are held at various places throughout the country, at different periods of the year. Some are established by custom and convenience, and others by acts of parliament. They afford every necessary facility to the commercial intercourse of the inhabitants.

SECT.

SECT. 3.—WEIGHTS AND MEASURES.

Lineal Measure.

The Scotch ell, consisting of thirty-eight English inches, is used for home manufactures, for measuring dikes, ditches, trenched work, &c.

Scotch inches and feet are not now used.

			English inches.
Scotch inch	=		1.0054054
12	Scotch foot	=	12.064864
37	3 feet	Ell	
		28	= a bolt.

The Scotch mile contains 1920 ells, or 1984 English yards.

Table for converting Scotch ells into English yards, and English yards into Scotch ells.

Scotch ells.	*English yards.*	*English yards.*	*Scotch ells.*
⅛	.1291666	⅛	.1209677
¼	.2583333	¼	.2419354
½	.5166666	½	.4838709
1	1.0333333	1	.9677419
2	2.0666666	2	1.9354838
3	3.1	3	2.9032258
4	4.1333333	4	3.8709677
5	5.1666666	5	4.8387096
6	6.2	6	5.8064516
7	7.2333333	7	6.7741935
8	8.2666666	8	7.7419354
9	9.3	9	8.7096774
10	10.3333333	10	9.6774193

Liquid

Liquid Measure.

I have examined the standard pint-jug kept at Tain, and found it to contain the same number of cubic inches as the general Scotch standard, viz. 103.404. The general Scotch measures are used.

Dry Measure.

Wheat is now sold by the Linlithgow firlot; containing 2197.335 cubic inches.

Oats and barley are sold by the firlot, containing 3308.928 cubic inches, equal to one firlot, one pint Scotch.

St. Pint.				
2	Lippie.			
8	4	Peck.		
32	16	4	Firlot.	
128	64	16	4	Boll.

This boll is 3.225 per cent. better than the Scotch standard, and is equal to six bushels, nine pints, 30.8 cubic inches, English standard measure.

Land Measure

Is the same with the general Scotch standard.

Weights.

For butcher-meat and wheat flour the avoirdupois weight is used, reckoning 16 lb. to the stone, and eight stone to the boll.

Scotch Troy, or Dutch, is used for oatmeal, butter, cheese, tallow and flax, reckoning nine stone to the boll; 21 lbs. are reckoned for the stone. Wool is sold by the stone of 22 lbs.

SECT. 4.—MANUFACTURES.

THE only manufacture which has been established, is that of biscuit and cotton-bagging at Cromarty, with branches at Invergordon and Port-Mahomack. This is carried on to a very considerable extent. The bagging made at these places and at Inverness obtains an universal preference, under the name of Inverness bagging. Many years ago, the spinning of flax was attempted to be established by the trustees for fisheries, &c. at Inverlael and Loch Carron, but without success. Some remarks will be made on the establishment of manufactures, when I come to consider population.

There is an article sometimes made in some parts of the west coast, and if the manufacture were extended, it might employ a considerable number of hands; I allude to the manufacture of tar from the roots and trunks of fir-trees found in mosses. Tar is almost a necessary article for shepherds, and the importation of it has become a very difficult matter. I do not think that the Board of Agriculture, the Board of Trustees, or the Highland Society, could bestow their funds with greater prospect of benefit, than in exploring this hitherto unnoticed source of wealth. The peat-mosses of Scotland are of amazing extent, and are in general full of fir roots and trunks of trees; and I believe, that out of them we might obtain a much greater quantity of tar, than what would be required for home consumption. Besides this, during the operation of digging out the roots, the mosses would be drained and stirred, so that they might afterwards become

come productive of grass, if not of corn. I am not prepared to say any thing respecting the expence of manufacturing root-tar; indeed, I am not acquainted with the best process for extracting it. But I trust, that I have said enough to attract the notice of the Board of Agriculture, and the other public bodies I have mentioned, to a subject which seems to be of very considerable importance *.

SECT. 5.—COMMERCE.

BLACK-cattle, sheep, and wool, are the exports of greatest magnitude. Many attempts have been made to ascertain their numbers; but it is very difficult, if not impossible, to arrive at the truth, on account of the constant

* The Inverness-shire reporter having taken no notice of the woollen manufactory at Inverness, which was established a considerable time before his report was published, it may afford satisfaction to the board to know, that several gentlemen (of whom I am one) being desirous of trying a fair experiment, the first company was dissolved, and a new one formed, under the firm of Mackenzie, Gordon, and Co. In consequence of a considerable accession of capital, the manufactory has been extended, and the following machinery is constantly employed, viz. six double carding-machines; two more are about to be set up: two wauk-mills: 1 friezing-machine: eleven broad, and two narrow looms: eight spinning-jennies, with dyeing and dressing utensils, &c. corresponding. The quantity of wool manufactured every year is about 3000 stones. About 700 stones are carded and made into rolls for the country people. The number of people employed is about 100.

constant interchange of stock among the country people, and many farmers, who deal in cattle, having only what is called a flying stock, which is collected from the neighbouring counties, as well as those under consideration. From the constant additions to the sheep stock, and some other circumstances, the amount of that cannot at present be well ascertained. I am unwilling to give any statements which I cannot pronounce correct, or nearly so; and as I have not yet been able to ascertain the number of cattle and sheep exported, I cannot yet satisfy the board on this point.

A very considerable quantity of wheat and oats are sent out of the country. For barley, there has not of late been any demand, except in those parts of the country in the vicinity of illegal distillers, to whom every encouragement is given privately; and the justices of the peace are not ashamed to refuse putting the laws in force against them. Indeed, many have for their apology, their total ignorance of the laws which they are called upon to enforce, and this has been offered as an excuse upon the bench. This ignorance may also serve as an apology for swelling the commission of the peace with so many names.

There is certainly every encouragement for our improving and adding to our arable soil; and, in general, our great farmers are extremely active in attending to this. Whenever the whole of our arable land shall be placed in the hands of men of skill and capital, Ross-shire will exhibit a style of farming nowhere to be excelled. Our progress has been very rapid, and I trust that nothing can occur to retard our proceeding.

In

In Dingwall, Tain, Cromarty, and almost every village, shop-keepers are established, dignified by the name of merchants, who supply the inhabitants with articles of dress and luxury, as well as utensils of all sorts. The profits demanded for this convenience are indeed considerable, granting that good weight and fair measure are given, which may be reasonably doubted. But when every article appears to be of inferior quality, it is not to be wondered at, that many families supply themselves with groceries, &c. from Edinburgh and London.

The following statements, which are correct, serve to shew the rapid advance of sheep-farming in the north.

The quantity of wool exported from Inverness (which includes Cromarty and Portmahomack), in the year 1795, was 470 cwt. of raw wool. In the year 1808, the quantity amounted to 1915 cwt.

In the year 1802, 17 cwt. of wool was shipped at Ullapool; and, in the year 1808, 462 cwt. The shipments at this port have not been very regular, owing most probably to the inattention of the custom-house officers.

The wool exported from Fort-William in the year 1792, amounted to 3593 cwt. and in the year 1808 to 4707 cwt.

Perhaps nothing can show the progress of general improvement, in a more satisfactory manner, than the following account of the advance of the revenue from the post offices in the two counties:

In the year 1780 the revenue amounted to about L.400,
1790, - - - - 600,

In

In 1800, it amounted to about	- -	1300,
1808,	- - - -	2000.

SECT. 6.—THE POOR.

THE number of poor persons in this country is so very small, when compared with the extent of the population, that the character of the inhabitants for charity must stand very high in the estimation of our southern neighbours, who are not left to exercise their humane feelings, but are taught, by the oppression of rates, to abhor the name of charity, and to shudder at the appearance of a fellow-creature asking alms. The number of persons absolutely destitute of every means of supporting themselves, is quite trifling. The people, indeed, subsist on little, and on coarse fare; but they are very contented. On the subject of the state of the poor, I have received communications from most of the clergy, and from these I shall submit extracts to the Board.

Parish of Alness.

There are fifty persons on the poor's roll of this parish. Their capital stock amounts only to L.125, and the yearly collections to L.18. There is an annual allowance by the proprietor of the estate of Novar, of twelve bolls of meal to the poor.

Parish

Parish of Applecross.*

The number of poor on the roll is thirty. They have a fund of L.60 at interest, and the annual collections amount to about L. 41, 10s.

Parish of Avoch.

The number of poor on our list, on an average of seven years past, is thirty-eight. The funds, under the management of the kirk-session, cannot afford full maintenance to any of these paupers, but only some aid about Candlemas and Lammas, yearly, according to their various necessities; for our annual funds are but small, viz.

Interest of a mortification of L. 33 : 6 : 8 Sterling, by the late Sir Kenneth Mackenzie of Scatwell, - - -	L. 1	13	4
Interest of L. 72 Sterling saved and lent out by the Session, - - -	3	12	0
Annual produce of the palls or mort-cloths, (the use of which is given to the poor gratis) about - -	1	10	0
And annual average of collections in church for the poor during seven years past	10	15	0
	L. 17	10	4

Hence, after paying the small salaries of session-clerk, precentor, catechist, and kirk-officer, and unavoidable incidents, the sum distributed among the poor

* Communicated by the Reverend Mr Downie of Lochalsh, who also procured accounts from the western parishes, south of Gairloch.

poor on our list (on an average of seven years past), has been, including a few fines from delinquents, also distributed, about L. 12, 10s.

During my residence here, for twenty-one years past, I do not recollect above four or five common beggars or mendicants, resident at once in this parish, and very few, if any of these strolled beyond it, or were troublesome to the neighbouring parishes. Upon very pressing emergencies, however, such as long and severe distress in a poor man's family, or his stock being lost by fire, or by other unforseen accidents, the kirk session of this parish have granted a written certificate (besides all that our own funds could afford of assistance at the time) to such objects, when honest and of good character, recommending them to the more extensive charity of the county and neighbourhood. But we have generally appointed these recommendations to be used for only three, four, or six months from their respective dates, more or less according to the pressure of the case, and then to be returned to the session, conceiving that we had no right, except in very urgent cases, to send out such petitioners to the country at large. We have refused nearly one half of such applications; nor do I remember to have signed above ten or twelve of even those limited certificates, within the period first mentioned. Were this mode of granting only temporary recommendations more generally adopted by kirk-sessions, strolling-beggars would become the less frequent or troublesome.

Parish

Parish of Contin.

The number of poor presently on the roll is forty. In the Highland part of the parish, within the bounds of the mission, there are about twelve more.

Their funds amount only to L. 51 of capital. Besides the weekly collections on the Sabbath days, the session receives some small dues for mort-cloths, and now and then some penalties. These, with the yearly interest of their little capital, the session distributes annually, or as occasion requires, among the poor.

The above sum of L. 51 was made up of a small legacy left some years ago to the parishes of Contin and Fodderty, by a Miss Morrison, daughter of the Reverend Mr Angus Morrison, the last episcopal minister in this parish. He was ejected from his church after the revolution, when presbyterian church-government was established in this nation. Miss Morrison went to Jamaica, and made her money there. There was only L. 20 remaining of what belonged to this parish of said legacy, when the present incumbent was admitted minister. The rest of the small capital was made up mostly by the liberality of the residing heritor and his lady, by aiding the weekly collections, and sometimes giving donations besides. In times of scarcity, as in summers 1800, 1801, 1808, they keep open a public kitchen, and distribute broth several times a-week to the poor, who are here better attended to than in many other parts of the country. They also sent to the minister, to be distributed among the poor, the first five bolls of meal which were made in the parish last autumn.

There are but comparatively few of the poor of this parish who go a-begging. As to the strolling beggars who

who come from other places in the course of a year, it is not possible to state their number with accuracy, unless there was an account of them kept for some successive years. In a summer like the last, there will perhaps be ten or twelve of them in a day from different parts of this and the neighbouring counties, from Inverness, Lochaber, Kintail, Gareloch, Lochbroom, &c. &c., which is no small cess. It would be a proper thing that every parish should maintain its own poor. In the winter time very few go about.

Parish of Cromarty.

The number of poor upon the roll amounts to 154. The funds for their relief are as follow: In meal there are nine bolls, 6½ pecks, payable from mortified lands left for behoof of the poor 138 years ago, by one M'Culloch of Goodtree. Along with this there is the annual interest of L. 150 Sterling of a fund, and about L. 5 Sterling annually of seat-rents. The weekly contributions at both congregrations have considerably increased within the few last years, and may be estimated annually at L. 40 Sterling, so that between meal and money there will be a sum amounting to L. 60 Sterling annually for the above number of poor, which is distributed among them in two parts, at those seasons of the year when the necessaries of life are purchased at the easiest rate. It is worthy of remark, that, in the year 1783, there was upwards of L. 30 Sterling collected in one day's time, in this small place, for relief of the destitute. Several of the tenants still speak of their feeling the hard effects of that and the preceding year.

Parish

Parish of Dingwall.

The funds for the poor of this parish arise from

1st, Interest of a bond for L. 700 in the hands of Mr Davidson of Tulloch,	L. 35	0	0
2d, Collections in church, which have increased rapidly within these few years, and amount to nearly -	30	0	0
3d, Fines, mortcloth dues, &c. about	5	0	0
	L. 70	0	0

The above sum is distributed as follows:

Divided among the poor on the roll, in number about sixty, in sums of from five shillings to two pounds, at an annual distribution in June,	L. 37	0	0
Occasional relief given to indigent families and individuals in the course of the year, -	10	0	0
Assistance given to poor parents to enable them to educate their children, about	12	10	0
Salaries paid to catechist, session-clerk, kirk-officer, and precentor,	10	10	0
	L. 70	0	0

Parish of Edderton.

There are about forty names on the poors-roll. There are no funds except the weekly collections at church, which amount to from L. 8 to L. 10 a-year.

Parish of Fearn.

There are about 100 poor persons in this parish. There is a fund of L. 120, besides the weekly collections

tions at church, which amount to about L. 10 in the year.

Parish of Fodderty.

There are sixty persons on the poors-roll. They have L. 226 settled on good security, and twelve bolls of barley annually, mortified to them by John Lord Cromarty. The collections amount to L. 10 per annum.

Parish of Gareloch.

No communication has been received from the minister of this parish. The schoolmaster informs me that the number of poor persons in the list is 112, and that they have a fund of L. 92, after the last distribution.

Parish of Glenshiel.

The number of poor on the roll is twenty-two. There is a fund of L. 60 at interest. The collections at church amount in the year to about L. 6. Lady Seaforth gives an annual donation of L. 5.

Parish of Killearnan, or Red-Castle.

This parish is at present vacant, there being a dispute respecting the patronage, between the Crown and Mackenzie of Cromarty, which I understand is to come before the House of Lords. I am informed by the schoolmaster, that the number of poor is about fifty; and, that besides the weekly collections at church, there is a fund of L. 200.

Parish

Parish of Kilmuir-Wester, or Knockbain.

The number of poor in the list is thirty-five. For their benefit there is a fund of L. 150 at interest. The weekly collections amount, in general, to about L. 8 per annum, and incidents being from L. 3 to L. 5 more. Of those in the list, only two are strolling beggars. Those who are admitted upon the roll must sign a bond, obliging themselves to leave all they may die possessed of to the poor, unless they have children or grandchildren, under the age of fourteen years, or if they pay a rent of L. 10 or upwards. The Session furnishes a coffin, when any of them die, and sometimes linen for a shroud, provided that no whisky is drank at the funeral.

Parish of Kilmuir-Easter.

The number of poor in this parish is 100, and there is no provision for them, but the weekly collections at church, which, in a year, amount to between L. 20 and L. 30.

Parish of Kiltearn.

The number of poor on the roll of this parish is eighty-six. The collections amount to about L. 10 per annum, which, with L. 6, 4s. of interest, for sums left to the poor, is the whole sum for them, and the session-clerk, precentor, and catechist.

Parish of Kincardine.

The number of poor on the roll is generally thirty-five. Every second year, 35 merks are paid by the parish, out of a fund mortified by Lady Anne Stewart,

wife of Baron David Ross of Balnagown. The collections on Sunday amount to about L. 10 per annum.

There are about twenty persons belonging to the parish, who are not on the roll, but who go round, twice a-year, to beg some charity in meal or money.

Parish of Kintail.

The number of poor is twenty. Their funds consist of interest of money - L. 6 0 0

Annual collections, -	3	0	0
Donations from Lady Seaforth,	3	0	0
	L. 12	0	0

Parish of Kirkmichael, or Resolis.

During the twelve last years, the number of poor has varied from 34 to 38. They are divided into classes, according to their necessities. The Reverend Mr Arthur has taken great pains in this department of his duty. In a letter I had the pleasure of receiving from him, he says,—before my settlement, and, during several years thereafter, there were no funds for the poor but the weekly collections in church, which were very trifling indeed.

About the year 1788 I began, a second time, to form a little permanent fund, which, by attention and perseverance, now amounts to L. 76, 10s. Besides the interest of that sum, the weekly collections and dues for the mortcloth have amounted, for several years past, to L. 11 and often to L. 14 per annum. For 30 years I have had the poor divided into three or four classes, which has been attended with much benefit to the greatest objects. Though it may not be necessary,

sary, I shall render the following information, as to the annual distribution of our funds. After paying the session-clerk, and kirk-officer, catechist, and incidental expences,

The first class, receives from		14s. to 18s.
The second do.	-	8s. to 10s.
The third do.	-	4s. to 6s.
The fourth do.	-	2s. 6d. to 3s. 6d. and 4s.

When I became minister of this parish, I found, owing to the undue influence of twelve elders, 90 persons on the poor's roll, many of whom were by no means in want. I thought it prudent, however, to allow matters to remain as they were for a few years. At last, I obtained an act of session, ordaining, that no person should, in future, get any share of the poors fund, who did not sign an obligation to leave their all, after paying their debts and funeral expences, to the poor of the parish; except they had near relations, who could be proved to have been liberal and kind to the deceased in their distress. This was a most unpopular measure: it had, however, the effect I desired, and reduced the number of those who were really poor to thirty-four.

Parish of Lochalsh.

The number of poor in this parish is forty. There is a fund at interest of L. 105. The collections at church amount per annum to L. 15. While Lochalsh was the property of the Seaforth family, Lady Seaforth gave an annual donation of L. 5*.

* The charity of this lady is not only very extensive, but of the most useful kind: the excitement of industry being her ladyship's prime object.

Parish

Parish of Lochbroom.

From various circumstances, which it would be unpleasant to mention, the poor of this parish have been shamefully neglected. But there is a prospect of every thing connected with it being very soon arranged on a proper and respectable footing.

Parish of Lochcarron.

The number of poor is twenty-five. There is a fund at interest of L. 42, and the weekly collections amount annually to L. 12.

Parish of Logie.

There are sixty names on the poors roll, and there is no other fund for their relief but the weekly collections, which make an annual sum of about L. 10.

Parish of Nigg.

The number of the poor is fifty; and, to relieve them, there is a small fund of L. 20, and the weekly collections, which make a sum of L. 10 or L. 12.

Parish of Rosskeen.

The number of poor is fifty. They are divided into three classes; those who are blind and bedridden; widows who have families to support, and who are industrious; and the ordinary strolling beggars. There is a fund of L. 24, and the annual amount of the collections at church is from L. 10 to 20. Mr M'Leod of Cadboll, the principal heritor, is very attentive to the wants of the poor.

Parish

Parish of Rosemarkie.

The number of poor may be averaged at seventy. The Reverend Mr Wood says, that all of these receive supplies from the kirk-session, though none of them be entirely supported. Besides their usual allowance, they receive in times of scarcity a little more. There are no strolling-beggars, who go from this to neighbouring parishes; but there are numbers who frequent it from other places. The amount of the funds is L. 260, the interest of which, with about L. 12 of collections at church, is annually distributed, after paying salaries to the session-clerk, precentor, and officer. There are, besides, two bequests for the benefit of the poor: one of 27 bolls, purchased principally by money left by one of my predecessors, and by Bishop Paterson, which is under the management of the Magistrates of Fortrose; and the other of 19 bolls bequeathed by Barbara, Countess of Seaforth, and is managed by the ministers of Rosemarkie and Avoch, for behoof of the poor of the town of Fortrose. Both of these have been converted into a money-rent, and are distributed annually among the poor and decayed inhabitants.

Parish of Tain.

There are about 150 persons on the poors roll of this parish. There is a fund of L. 100, and the collections amount to between L. 30 and L. 40.

Parish of Tarbat.

The number of poor is eighty. There is nothing for their relief, but the annual amount of the weekly collections, which is about L. 15.

Parish of Urquhart.

I have been referred by the minister of this parish to his statistical account, from which it appears that there are 200 poor in the parish, and that the fund for distribution amounts to about L. 24. From the immense multitudes who attend the church of this remarkably popular minister, the smallness of the fund gives a very poor idea of the charity of his hearers.

Parish of Urray.

As the residing heritors seldom attend public worship, and as the bulk of the inhabitants are poor, the weekly collections are very small, being in general less than L. 7 per annum. The greater part of this is given to people who are bedridden, so that there is little left for the common begging-poor. Of both descriptions there are about forty, exclusive of the poor on the estate of Brahan, who are taken care of by Lady Seaforth.

SECT. 7.—POPULATION.

I have in vain attempted to obtain materials for tables of births, marriages, and burials, so as to give even the smallest degree of satisfaction to those who wish to extend their knowledge of this very interesting subject. I find that, in the parishes where the most accurate lists are kept, no notice is taken of burials, except in Cromarty; and, having observed some incongruities

congruities in the proportions between marriages and births in some parishes, I found that the former had been registered, and no notice taken of the parties having gone to reside in another parish. This accounted for too few births, in proportion to the marriages, in one parish, and for too many in another. This remark is of some importance; for it is not improbable, that, from circumstances similar to those which have just been mentioned, errors may have crept into the various discussions on population. This subject is of so much consequence, and the registers are, in general, so carelessly kept, that it appears to be necessary that an act of parliament should be passed, prescribing the form of every parish register in Britain, and obliging the clergy to send a copy of their registers annually to the Secretary of State. And in order to ascertain the population of the country, at the time the new registers commence, all proprietors of land and houses should be required to give accurate lists of the tenants and peasantry of their estates, every one of whom should be brought forward and sworn, as to the numbers in their families, and the ages of the individuals composing them. This is merely a hint of a mode of proceeding, by which I think that the population of the kingdom might be ascertained beyond a doubt. The schoolmasters of this part of the country, (I mean of the extensive and remote highland parishes) cannot possibly ascertain the population, nor can the clergy. The only accurate method is to take the population of estates. In consequence of the extreme inaccuracy of the population lists, there are many parishes in the north most unfairly oppressed, by the number of militiamen they have to furnish.

From

From what I have said respecting our parish registers, it will not be expected that I am to enter minutely into the subject of population. I regret extremely, that I have been unable to procure the means for proceeding to a discussion, which would have been very interesting to myself, and which might have explained to those, whose duty it is to keep our parish records, the great importance of attending to the progress of population, and the circumstances which affect it in different situations. The table which follows is the most accurate that can be made, and shews the amount of the population at three different periods. As to the first statement I cannot well judge; but the two last are not accurate; and I am satisfied, that the error consists in the numbers being too low. In many of the parishes the population is increasing; in some it is decreasing, on account of the introduction of the modern system of husbandry, which, when fairly established, will at length cause an increase. It is in those parishes chiefly, where the new system has been established, that the population is increasing. But I shall proceed to a branch of the subject, more general indeed, but which has excited a great deal of interest, and which the query of the Board, Is the district over or under peopled? has given me an opportunity of noticing.

Population

Population of Ross and Cromarty-Shires.

	Parishes.	Stat. Acct. Vol.	Stat. Acct. P.	Population. 1755.	Population. 1790. 1798.	Incr.	Decr.	1800.	Since 1790-98. Incr.	Since 1790-98. Decr.
1	Alness,.....	XIX.	234	1090	1121	31		1072		49
2	Applecross,.....	III.	369	835	1734	899		1896	162	
3	Avoch,.....	XV.	610	1457	1380		77	1476	96	
4	Contin,.....	VII.	161	1949	2500	551		1944		556
5	Cromarty,.....	XII.	245	2096	2184	88		2208	24	
6	Dingwall,.....	III.	1	1030	1379	349		1418	39	
7	Edderton,.....	XI.	461	780	1000	220		899		101
8	Fearn,.....	IV.	288	1898	1600	298		1528		72
9	Fodderty,.....	VII.	410	1483	1730	247		1789	59	
10	Gairloch,.....	III.	89	2050	2200	150		1437		763
11	Glenshiel,.....	VII.	124	509	721	212		710		11
12	Killearnan,.....	XVII.	337	945	1147	202		1131		16
13	Kilmuir-Easter,.	VI.	183	1096	1975	880		1703		272
14	Kilmuir-Wester,	XII.	262	1367	1805	438		1859	54	
15	Killearn,.....	I.	259	1570	1616	46		1525		91
16	Kincardine,.....	III.	505	1743	1600		143	1865	265	
17	Kintail,.....	VI.	242	698	840	142		1038	198	
18	Kirkmichael, (Resolis,).....	XIV.	88	1371	1234		137	No	Ret	
19	Lochalsh,.....	XI.	422	613	1334	721		1606	272	
20	Lochbroom,.....	X.	461	2211	3500	1289		3533	33	
21	Lochcarron,.....	XIII.	551	771	1068	297		1178	110	
22	Logie-Easter,....	IV.	472	850	1125	275		1031		94
23	Nigg,.....	VII.	194	1261	1133		128	1443	310	
24	Rosskeen,.....	II.	358	1958	1700		258	2074	374	
25	Rosemarkie,.....	XI.	333	1140	1262	122		1289	27	
26	Tain,.....	III.	389	1870	2100	230		2277	177	
27	Tarbat,.....	VI.	417	1584	1370		214	1343		27
28	Urquhart,.....	V.	203	2590	2901	311		4430	1529	
29	Urray,.....	VII.	245	2456	1860		596	2083	223	
30	Lewis, Barvas,.....	XIX.	263	1995	2006	11		2233	227	
31	Lewis, Lochs,.....	XIX.	274	1267	1768	501		1875	107	
32	Lewis, Stornoway,	XIX.	241	1812	2639	827		2974	335	
33	Lewis, Uig,.....	XIX.	280	1312	1898	586		1010		888
				47456	55430	9523	3	55877	4621	2940

Assuming the population of Resolis to have been in 1800 the same as it was in 1790-3, viz. - - - - - 1234

The total population for 1800 is - - - - 57111
From that subtract the population of 1790-8, - - 55430

The increase appears to have been - - - 1681

It

It is some time since the improvement of the Highlands, in general, has arrived at that point which could not be passed without a struggle, and that a painful one. It has been found necessary to remove a very great number of people from possessions to which they were strongly attached, and to which they considered themselves, in a great measure, the rightful heirs. The commotions which were raised in this country, by a removal of part of the old tenantry, appeared on the introduction of sheep-farming, the history of which has been already detailed. The people had sufficient sagacity to discover that, if this kind of farming succeeded, and was allowed to go on, their connection with the land would become very precarious. After the total defeat of their mad attempt to drive the sheep which had been introduced out of the country, their hopes of being long continued on their farms, on their former footing at least, were extinguished, and no alternative appeared but emigration. After the tumult of 1792 had subsided, sheep-farming became the universal theme of conversation and discussion. Doubts were entertained of the propriety of introducing it, as well as of the amount of the profits which were expected. Thus the progress of this vast improvement on the manner of occupying our mountains was somewhat retarded. The humane feelings, which were excited by the prospect of distressing an indolent and almost useless population, cannot be blamed. But the extravagant enthusiasm which was manifested at one time in favour of the old system of rural economy, was not by any means praiseworthy. Caution in every change is not only proper, but necessary; but to keep reason aloof is absurd.

The

The study of political economy is intricate and difficult; but the state of the Highlands is now such, as to render more study necessary for the proprietors of estates, than they seem willing to undertake. Prejudice has long imperiously reigned in the midst of the mountains, and she has not yet been entirely expelled from her dominions. The Earl of Selkirk's publication will probably be the means of at length bringing about an universal right understanding on the subject of Highland population, and convincing all who are at present in doubt, that the true value of land is to be found, not in the number of ignorant and idle people, who can contrive to live upon it, but in the number of cattle and sheep, and in the quantity of corn it can produce.

There exists a very strange contradiction in the opinions of many persons who have an interest in the prosperity of the Highlands. It is now universally admitted to be desirable to introduce a better system of agriculture, and also a method of rendering our numerous mountains more productive. Yet it has not in very many instances been discovered, that these two desirable objects are quite incompatible with the retention of the present number of people. Those parts of the country which are capable of cultivation, cannot be turned to the best account, without being occupied in large portions. Such portions cannot be occupied without a sufficient capital, and competent skill. The Highland tenants have neither capital nor skill, and therefore cannot be considered fit to improve the country. It is for the interest of the proprietors, and of the public, that the soil should be made to yield all that it possibiy can afford, that it may support a large and industrious population. It is very bad policy, in every

every view, to bestow the means of subsistence for the purpose of feeding idleness. The present race of tenantry is universally allowed to have an aversion to active employment, and therefore it is neither for the interest of the proprietors, nor of the public, to retain it. The Highlanders, from want of skill, capital, and industry, being incapable of improving the country, and it being necessary, for the introduction of a better system, to engross a number of small farms, a great many are consequently thrown out of their possessions, and have only the alternative of starving, or leaving the country where no employment can be found for them. A considerable number have sought employment in the manufacturing towns of the south; but by far the greatest number have gone, with the hope of becoming independent, to cultivate the forests of America. A great part of the superfluous population has thus been removed, and very beneficial effects have followed. It may be here remarked, that all those who think they argue irresistibly, in proving that emigration is pernicious, have never attempted to point out a single instance in which bad effects have followed it. The evils which they have conjured up are all in prospect, and will for ever remain so. It has indeed been alleged, that there is, or will be, a scarcity of labourers. If there really is such a scarcity, the fault lies with those who complain of it. They will not give a proper price for labour, and the people go to seek liberal employers elsewhere. Numbers of men leave this country in the summer-time, in search of employment. Some go to Caithness, others to the southward, particularly to Aberdeenshire. None of the people would go to cut down corn for the farmers

mers of the southern districts, if they could obtain sufficient recompence for their services at home.

It cannot be denied that, unless employment can be found, there is no occasion for people. But all the speculations which have been offered to the public, on the practicability of retaining the superfluous population in the Highlands, inform us that, in the first instance we must keep the people; and the authors leave them the very distant prospect, or more properly a chance only, of finding employment for themselves. It would have been more agreeable to common sense, had these authors told us, how people, deprived of their usual means of support, could be kept alive, if they were not to leave the country; for being once turned loose, the poor Highlanders are not to be expected to wait, at the risk of being gnawed to death by hunger, for the issue of any speculations. While nothing exists to afford employment for the people necessarily deprived of their connection with the soil, the impolicy of restraining their inclination to emigrate, or to seek employment wherever they can find it, requires no demonstration. It is highly proper to direct their motions, and to prevent them, if possible, from selling themselves to the Americans, or to speculators of our own colonies. Any endeavours made with such benevolent views cannot be too highly praised; and had the many enthusiastic authors, who have favoured the public with their lucubrations, turned their attention to find employment for the Highlanders, either at home or abroad, instead of trying to force a connection with the soil, their exertions would have been of some importance to the commonwealth. The arguments which have been raised on the supposition that the people

people must be kept to supply the army and navy, are worse than absurd. Supposing that a good-hearted (I must suppose ignorant) landholder should be persuaded, that it is for his own interest he should retain a numerous population on his estate, is it a proper return to make to him for yielding to such persuasions, to send a parcel of recruiting-officers to deprive him of those people, whom he was taught to cherish, and to consider the most valuable part of his possessions? But that is the avowed purpose for which so many plausible, but futile, arguments have been employed. The Highlands are trumpeted forth as our only resource for soldiers, while it is notorious that the inhabitants have a strong aversion to a military life. Though in a recent instance the battalion of the 78th regiment, which was commanded by my much lamented brother-in-law Colonel M'Leod, was raised in a very short time, yet this was not owing by any means to the spirit of the people. Indeed some bands of young Highlanders who went to join the regiment, declared, rather indiscreetly perhaps, that they had enlisted merely to save their parents from being turned out of their farms. There were other circumstances which occurred to render the raising of this regiment more expeditious than is usual on such occasions; and among others may be mentioned, the disbanding of the Canadian Fencible Regiment, which was occasioned by the vile deceits which were practised in collecting it being discovered and exposed. There were many fine fellows, however, who enlisted out of pure regard for some of their officers and their connections; but their number was but small when compared with the total amount of the battalion. Notwithstanding

its being inconsistent with the liberty enjoyed by Britons, with common justice, with sound policy, that the Highland proprietors alone, of all others in the empire, should be deprived of the benefit of an improved system of rural economy, and condemned to poverty in order to provide recruits for the army; yet this is the sum and substance of all the outcry against emigration, and to such a state of slavery would some people subject the Highland proprietors, some of whom indeed seem very much inclined for the yoke.—It has been alleged, however, that there are sufficient means for affording employment to our superflous population, thrown idle by the engrossing of farms. The improvement of waste land, the establishment of manufactures, and the fisheries, have been mentioned as sources of employment easily attainable. These deserve some notice, although only the last points out a reasonable prospect of practical success. The formation of the Caledonian canal, and of roads, may serve to accustom some of the people to work, and, as means of temporary employment, will be of very great use.

Various methods have been put in practice for employing the Highlanders in the improvement of waste land. Some proprietors grant leases to crofters on easy terms, on condition that they shall bring a certain extent into culture in a given time. In this case, the proprietors are presumed to have no capital to spare, and to be anxious to have their wastes broken up. For this purpose, a number of the poorest, and most ignorant people, is collected, and settled on small patches of moor ground. But the moment after the poor, hungry, naked creatures, have by hard labour, with bad instruments, and subjected to every inconvenience,

struggled

struggled through the task which dire necessity had imposed, they arrive at the precise state in which they were, before they began to cultivate the waste. They have now changed the rough moor into a number of small fields, and these must now be joined together, to form one sufficiently large farm for the employment of the skill and capital of one person; and the crofters are removed to another moor. But to do justice to some proprietors, they allow the people to remain on their crofts during life. But still this is not a sufficient remedy. A provision for a family cannot be got out of a croft; and when the father dies, the mother and children are destitute, and must remove. If not removed, the same miserable pittance of land must serve them. They will all die out at last, and thus the benevolent views of the proprietor may be accomplished, and his land restored to him in an improved state, and ready to be still farther improved. The infatuation of the Highlanders leads them to prefer this plan, although lasting poverty and wretchedness stare them in the face.

A more benevolent plan has been attempted by several proprietors, though the result in every case of the kind must be exactly the same. A certain sum of money is given to the crofters for each acre they improve. This I have tried myself, and have found it quite inadequate. I settled eight or ten crofters on a piece of waste land, gave them a promise of a lease without rent, and a guinea for every half acre they cultivated, on condition that they should improve at least half an acre every year. But I soon found that they were perfectly contented with one or two acres, and that they preferred illegal distillation, poaching,

or

or some other occupation, quite unsuitable to my views, and I was obliged to dismiss them.

The crofting system, that is, the attempt to bring waste-land into cultivation, by means of our superfluous population, in any of the ways just mentioned, must be condemned, even supposing that, in a certain degree, success attended it, and that the land was broken up. For at last the rent of the land will come into view, and must be got; and it cannot be obtained but from a farmer of skill and capital. But the manner in which the whole process of improvement is carried on, and the style of management which the poor crofters adopt, (and must adopt while they are unskilful, without capital, and without knowledge of any sort,) is such, that when a skilful farmer is brought to view the crofts, he will at once declare, that he would have been much better pleased to have begun to cultivate the land in its original state. But let us look to the most rational method of employing the people in improving waste land. Let it be supposed that a proprietor devotes a considerable capital for the purpose, and pays the people liberally for their labour: to render the conclusion I wish to draw more distinct, I shall suppose and state a case:

A proprietor has given leases of his hills to a few sheep-farmers, who, with their shepherds, have superseded the former population. All his crofts and small farms are engrossed, and a thousand people are thrown out of their possessions. The proprietor, being a humane person, although he is obliged to raise his rents, is yet desirous of retaining the population on his property, rather than allow it to be transported to America; and resolves to make use of it in clearing and breaking

breaking up three thousand acres of waste land at home. I will suppose, that of the thousand, five hundred people are able to work. If these five hundred were to break up 500 acres every year, (the exertion would not be great,) the whole three thousand waste acres would be in a state fit to receive skilful farmers, six of whom might occupy the whole, after a period of six years. What is then to become of the people, whose numbers may by that time have increased. The humane proprietor has now no employment for them. He must reap the profits of his improvements; the people must find employment somewhere; and if not at home, they must emigrate or starve. If it be asserted, that the people may be kept on the ground, and that six acres is sufficient for each family, I will ask, for how long will the labour required in managing six acres keep a whole family employed? Without some other occupation, the people may well be called idle; and whether a proprietor's giving up three thousand acres to feed idle people may be useful or not to the public, is not difficult to discover. The people are useless to the community. Their whole labour is devoted to keep themselves from starving; and they can neither spare food for others, nor apply themselves to any art. In short, as crofters merely, they can be of no earthly use whatever, unless, as has been proposed, for the purpose of breeding and rearing recruits for the army, which would be a degradation, and enslaving of the poor wretches, enough to sink them below the scale of reason, and to make them rank with any other breeding-stock. Unless sufficient and permanent employment can be given to men, women,

men, and children, every plan of crofting is impolitic and hurtful.

On the impracticability of introducing manufactures into the Highlands, on a scale sufficient to employ the superfluous population, the Earl of Selkirk has said enough to convince every unprejudiced person of the truth of his remarks. That manufactures may be partially introduced, neither Lord Selkirk nor any other person doubts; but to hold up establishments which require large capitals, and very great exertion, as sufficient for employing even a small portion of a superfluous and unskilful population, must be considered as purely hypothetical. It is very easy to say, that if manufactures were established, the population might be employed; but the means of establishing them, and the profits necessary for upholding them, do not appear to have been thought of. Having resolved to make the experiment, in a situation having every advantage required for such an undertaking, I joined some other gentlemen, and the woollen manufacture has been fairly begun at Inverness. I certainly expected, that the inhabitants of the Highlands would eagerly encourage what had been long loudly called for; but I have been disappointed. The West India market, which is rapidly opening to us, is what we now look to. The total want of encouragement from the inhabitants of the country, from the proprietors who have been crying out for manufactures, and from the lower classes, who have been praying to be kept at home, has proved beyond a doubt, that they do not consider manufactures by any means sufficient to prevent a superfluity of population being felt. Indeed, the number of people required for the operations of the

the woollen manufacture is so small, when compared to the number for whom employment is wanted, that any hopes of its perfect establishment being of use in retaining the population must be abandoned. Machinery must be employed in every department to which it can be applied, in order to enable us to compete with other manufacturers, and this reduces greatly the number of hands which would be otherwise required. The woollen manufacture is the one which can be most easily managed, on account of the near vicinity and abundance of the raw materials. The company with which I am connected has no doubt of complete success attending its exertions. But it has learned by experience, that, even were the manufacture extended to its utmost possible limits, it would be in vain to depend for support on the consumption of cloth at home; and that the number of people who would be required would be trifling, when compared to the numbers already dismissed, and those who may yet be removed from their possessions throughout the Highlands. But I do not argue that manufactures ought not to be established; on the contrary, I maintain, that it is of the utmost importance that they should, in order that industrious habits may be acquired by the rising generation. It is absurd to attempt to rouse the old men, or any who have begun life, by becoming occupiers of land. But it is hardly necessary to dwell on this subject, for matters are taking their course in spite of all the outcry against dismissing the old tenantry. Interest is the prime mover of the actions of men; and since the defenders of the old system of managing Highland estates have not, in their voluminous writings, exhibited a single argument

ment, to convince the proprietors that it is more for their interest to retain than to put away their old tenantry, they ought not to be astonished if emigration should yet for a while continue.

The fisheries hold out the fairest prospect of our finding employment for a great part of our superfluous population. The extent to which they may be profitably carried on, is well known to be great; and the difficulties in the way of establishing them on a proper and beneficial footing, are acknowledged, by all who have attended to the subject without prejudice, and without terror for the revenue being defrauded, to be trifling. The extensive inquiries which were made by the Highland Society, and the zeal and activity of the worthy member for Inverness-shire, were expected to produce a radical and beneficial change on the regulations of the herring-fishery. The loch-fishings, by means of which alone we could begin to employ the people, whom we must otherwise turn loose, are totally overlooked. Regulations, and strict ones too, are undoubtedly necessary to maintain good order in proceeding to the business of the fishery; but an act, containing thirty folio pages of regulations, is by no means required. The late act has failed in exciting approbation among the fish-curers of the north, who are equally interested in the deep-sea and loch-fishings.

As a source of national wealth, and as a profitable employment for the Highland peasantry, the herring-fishery has always been regarded as a most important object in our economical system. From a collection of undeniable facts respecting the natural habits of her-

rings, it appears, that the fishery may be rendered a regular and certain employment. This being the case, every person who wishes well to his country, especially who has an interest in the Highlands of Scotland, must regret, that the system which has been acted upon in regard to the fisheries, and the very endeavours of government to encourage adventurers in the herring trade, have been the causes of its having almost totally failed. The long act for regulating the deep-sea fishing, contains no provision calculated to remedy the evils to which the herring-fishery has long been subjected. The outrages committed by the busses upon the Highland fishermen, and the fraudulent application of salt, still continue in full force. Although my ideas regarding the most effectual method of improving the fisheries be somewhat different from what are contained in the following letter from Mr M'Donald of Loch Inver to Mr Charles Grant, M. P. yet I deem it highly worthy of the consideration of the public :—

(Copy.) Letter to Charles Grant, Esq. M. P.

" SIR, *Loch Inver*, 12*th Dec.* 1806.

" I am duly favoured with your letters relative to the fishery of this coast, to which my absence from home prevented an earlier reply. I now submit to you such hints as the most attentive observation during very long experience, and engagements larger than those of any other person in Scotland, convince me are necessary for the improvement, or rather the establishment of the fishery, which I am certain has never been conducted in such a manner as to permit any

any idea to be formed of its immense value, were it properly regulated.

" By the abstract sent to me of the intended fishery bill, I perceive it relates almost entirely to a deep-sea fishing, which, from the great advantages derived from it by the Dutch, and other nations, and the superior local advantages we possess, deserves every attention and encouragement. But, from the entire ignorance of the fishermen of this coast of the manner of conducting it, from being reduced by their want of success in their present mode of fishing, to have no other capital than their materials and vessels, none of which, except salt and barrels, will suit a deep-sea fishing, I am of opinion, that no encouragement which can be given will induce them to engage in it; and should they try it, their want of skill precludes almost every chance of success. Procuring a numerous colony of Dutch fishermen to settle on the coast, would be the shortest, surest, and most economical plan for establishing this important branch of the fishery; and, from inquiries I have made, I do not think that there would be any difficulty in putting it in execution.

" As far as the intended act applies to the loch-fishings, it offers no material encouragement, except in the establishment of a board of commissioners; for if men, well acquainted with the country, its inhabitants, and but moderately versed in the business of the fishery, be appointed, the Board may be of essential service.

" As my experience wholly regards the fishery of this coast, as hitherto carried on, I shall confine my observations to it; and, in order to make them as con-

cise and intelligible as possible, I shall class them under the following heads :—

" 1. The defects in the present manner of conducting the fishery.

" 2. The defects in the method of curing the fish.

" 3. The defects in the legal restraints and encouragements.

" 4. My opinion of these, and the changes necessary for properly conducting the fishery.

" 1*st*, The principal cause of the inconstancy and want of success in the herring-fishery, is, beyond all doubt, the total want of proper regulations for the manner of fishing, and for the conduct of the fishermen. The bailies that were appointed, were generally people of no experience, and had no interest in the business; and as they did not reside on the fishing-coast, they never paid much attention to their charge. The deputy-admirals of the buss fleet wanted that respectability which was necessary for enforcing their regulations; and when their interference was most wanted, they were too much occupied in their private concerns to think of the public interest. From the want of specific regulations, the temporary orders of bailies and admirals were never attended to; and the consequence has been, that the most shameful abuses and irregularities prevent any regular capture of fish, and subject the adventurers to heavy losses, arising out of long voyages, and the destruction of all their fishing materials. The most ruinous practice is that of setting nets in the day-time, which gives but the chance of catching a few of a large shoal; but, from the well-known timidity of the herring, it invariably

drives them off the coast into water of such depth, that they cannot be taken in it. Even in the middle of the north sea, the deep sea-fishers are fined, and lose the bounty of the season, if they are discovered to have their nets in the water during day-light. But it is the common practice of our fishermen, to attack a body of fish at noon-day, in the clearest and shallowest water, and generally on the land-side, when, by throwing stones, and plunging oars, they endeavour to frighten the fish into the nets. This practice alone, while continued, is enough to prevent the success of the fishery, nor can any other advantages make up for its injurious effects.

"Leaving nets constantly set, and every morning and evening taking out the fish, is a common but very injurious practice, when the fishing is slack, as it prevents the fish from coming into the lochs. It is a frequent practice for the fishermen, in endeavouring to occupy the best fishing-ground, to set their nets across each other, which prevents any capture, occasions quarrels, in which they destroy each other's tackling and boats; and the natives of the coast are always kept off the best fishing-ground by the superior strength and numbers of the boats in the fleet. The fishing is often interrupted by the anchoring of vessels in improper places. The want of regular public intelligence of the appearance of fish is attended by ruinous consequences, for on false news great numbers of vessels are sent from different parts of the kingdom. When it happens that slight appearances are magnified into great fishings, heavy losses follow. The whole fleet, while on this coast, is constantly cruising

cruising about, in expectation of falling in with a great shoal, while all the expence, in tear and wear of the ships and materials, might be saved, by a proper system of intelligence, which would enable the vessels to remain stationary, where a constant ordinary capture of herrings, cod, and ling, might be made during the greater part of the season

" *2d*, The curing of fish has never been much attended to in this country. Whatever be the quality of the salt used, and whatever be the size or condition of the fish, the proportion of salt to fish is seldom varied, but owing to the intervention of causes different from those which ought to regulate the process. By such inattention, some sorts of fish are destroyed by too much salt, and others by too little, and all sorts and sizes, fat, lean, spawned and unspawned, bruised and wounded, being promiscuously cured, the fish of this country neither have, nor can deserve that character which they would be entitled to, if the plan of curing were regulated. Barrels are generally defective in workmanship and strength. But above all other causes which tend to prevent the proper curing of fish, must be ranked the restrictions which prevent the fishermen from having the entire possession and free use of salt.

" *3d*, The defects arising from legal restraints and encouragements, are to be found chiefly in the difficulties attending the general circulation of salt among the fishermen. These difficulties are owing to the construction put upon the law by the excise-officers, in order to give themselves ease, and to increase their emoluments by fines and forfeitures, in which they have been

been very successful. There are no checks given to abuses by superior officers of excise, who seem to do all in their power to countenance their inferiors, by interpreting the law in their own way, and giving it a meaning which the legislature never intended it should have. The late salt-act grants indulgences to fishers, which it does not allow to fish-curers, and yet distinguishes them so imperfectly, that the officers are in the habit of exacting fines from fishers for not complying with regulations which are only applicable to fish-curers. The former merely cure fish of their own taking; the latter purchase fresh and cured fish, and keep a stock of salt for sale. The salt-act directs, that, in the month of May annually, the stock of salt remaining of what was laid up the former season, shall be weighed by the proper officer at the respective dwellings, or cellars, of the fish-curers or fishers, and that then and there the general account of the expenditure of the salt during the preceding season shall be settled and sworn to. By the present practice, however, fishers are required to carry their salt to whatever place the officer may appoint for having it weighed. The fishers and curers of several divisions are summoned to a distance, at an average of thirty miles out and home, and they are obliged to spend four or five days, which might be more profitably employed, with the collector or supervisor, settling the annual accounts, which being made up in a manner contrary to law, from the excisemen's books, are to be sworn to. From the ignorance and inaccuracy both of the excisemen and fishers, their accounts seldom agree. Those of the former are preferred; and the fishers refusing

fusing to take the oath to the accounts, are summoned before a quorum of justices, called together by the collector, at the head burgh of each county, and this forces the fisher to travel from fifty to sixty miles, and to be absent from his business during six or eight days. The justices being for the most part ignorant of the business of the fishery, and not masters of the laws they are called upon to enforce, and the fishers being in general ill-qualified to state their cases properly, they are generally fined five or ten pounds, according to the amount of their accounts. From such fines, and the forfeitures of salt, upwards of L. 700 have been collected by the officers in the Inverness collection, within the two last years; a sum which considerably exceeds one half of the value of all the salt imported into the district during that period. These exactions; the loss of time, and expences attending courts and meetings; the entries of cellars, bondings, transfers, inspections, brandings, and oaths, all contribute to distress the fishers, and to retard and lessen the capture of fish, while the curing of those taken is ill-performed. Much trouble arises to the fishermen, and sometimes they are even fined, on account of the non-attendance of officers when required to inspect fish, intended for the immediate consumption of their families. The frequent changes of excise officers occasion much vexation in the settling of accounts. The exactions of custom-house officers for travelling-charges, and the delays caused by inspections, and brandings of different officers, are the reasons why the barrel-bounty is claimed only by such curers as have a large quantity to do at a time. Thus the

the indulgences and encouragement given by the legislature are rendered quite unavailing to the fishermen, who best deserve them, and the prosperity of a trade of so much national importance, is blasted by the greediness, neglect, and ignorance of officers.

"The tonnage and barrel-bounties would certainly have been of much importance in promoting the fishery in its infancy, but were it once well established, I am of opinion that bounties would be unnecessary, perhaps improper. They have unfortunately been hitherto irregularly paid, and so often altogether withheld, on the most frivolous pretences, that they were considered too dear to be purchased by the trouble required. The tonnage bounty is now reduced so low, that very few take it. In so very precarious a business as the fishing now is, it appears to be an error to make the period for the bounty no more than three months in the year; and even then it is rather a premium to the successful, who do not need it, than an aid to the industrious, who require to be assisted when unsuccessful. Restricting busses from fishing in the district of the custom-house, at which they are entered for bounty, merely from the idea that they willperform an advantageous voyage in going from one district to another, is a ridiculous, partial, and hurtful measure. The bounty given for the exportation of herrings, so far as it is intended to enable the exporter to undersell foreign merchants in a foreign market, I conceive to be very ill-applied; because salt being greatly cheaper than herrings, the bounty encourages the pernicious practice of packing all herrings for exportation with a much larger quantity of salt than is necessary, which subjects government to the payment

payment of undeserved bounty, and renders the fish inferior to those with which they are intended to compete. I therefore think, that this bounty should be added to that which applies more directly to the increase of capture, by which means it will more effectually reduce the price, lessen the pernicious practice which has been mentioned, and certainly enable us, the better to compete with foreigners. These are the principal, but there are many other defects in the system of management, which I could state, were it not for extending this communication too far.

" *4th*, The changes which have taken place, in the political relations of Europe, having obliged us to become an armed nation, we ought to increase our population to the utmost extent that can be beneficially employed, and improve, as much as possible, all our sources of revenue. The great alterations which have been made in the management of Highland estates, renders the improvement of the fishery of the northern coasts of greater importance than ever, as it might be a means of preventing numbers of useful people from being banished to other countries.

" I therefore hope, that your patriotic exertions will be the means of changing, what is at present a national disgrace, into an abundant source of wealth and strength. There can be no doubt, that the fishery will be most successfully carried on by the people who reside upon the coast, the soil of which is well suited for such improvements as can be made during the necessary intermission of the fishery. As the inhabitants are the least beneficially employed of any in the kingdom, they become very interesting objects, in the present circumstances of the country. The great-

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est difficulty which occurs in trying to engage the Highlanders in the fishery, is to be found in their attachment to the soil, to which they have hitherto devoted almost the whole of their attention. The herring-fishery alone, cannot wholly occupy their time, when they have no land to cultivate. But happily the whole coast is lined with banks, on which abundance of cod and ling are almost constantly to be got.

"In almost every instance, in which this fishery has been attempted, success has attended it. From a complete trial which I myself have made of it, with the people of ten farms, which I have from the Marquis of Stafford, for the purpose of engaging them in this fishery, which they never before attended to, I consider its encouragement of the greatest importance, because, from its constant regular returns, it employs the people during the greater part of every day at sea, and, continuing almost the whole year, they soon become attached to it, as their chief employment. They become sea-hardy, and fitter for the navy or merchant service, and become more keen and active herring-fishers, than by being only herring-fishers they could ever be."

Mr M'Donald then goes on to state his plan for improving the management of the fishery. It consists of the division of the coast into districts, appointing a superintendent in each, and one over the whole, whose duty is principally the conveyance of intelligence from one place to another, of the appearance of fish. A proper system of intelligence, seems to be provided by the new act, in the appointment of inspectors, and a general superintendant. The continuance of the bounties Mr M'Donald proposes to be ten years. In the

the new act it is four years. He thinks inspectors necessary only at the ports from which herrings are exported. The act provides inspectors at every place where herrings are caught and cured. He suggests, that every householder who, *bona fide*, follows the fishing as a business, should, by way of premium, have a certain quantity of duty-free salt, for the purpose of curing fish for the consumption of his family. From this he does not apprehend any danger to the revenue, to which, he says, the people on the coast do not in the least contribute.

My own opinion respecting the cause of the decline of the herring-trade has long been fixed. It has not, I think, been owing to any defect in the regulations. It is to be found in the circumstance of the salt being delivered free of duty to those engaged in the fishery. I am sorry to be obliged to observe, that there are very few persons engaged in the fisheries, who do not rely on the greatest part of their expences, and some part of their profits, being paid by their illegal transactions with the salt they receive free of duty. These fraudulent practices have been too long connived at, and the excise officers have been very remiss in doing their duty; and, altogether, there has been such a lamentable falling off, that a powerful remedy must be applied to the root of all the evil, otherwise the late act will have but little effect. Complaints have been made by the owners and navigators of busses; but it can be proved, in a vast variety of instances, that they themselves have materially injured the fishery, by the most criminal actions, and that the bounty allowed them by government is their temptation to commit the unwarrantable outrages, by which the property of the native fishers so often suffers.

suffers. I shall, in as few words as possible, endeavour to explain on what my opinion is founded, that all the evils complained of arise from the salt being delivered free of duty.

1. The salt being delivered free of duty, while the duty is so high, presents a very strong temptation for fraud. Accordingly, we find every kind of deceit practised upon the revenue officers. While the fishing is going on, it is very common to present to the officers, for the purpose of being marked, barrels only half full of fish, the middle being filled up with salt, or any thing else. The same fish are presented several times, the marked part of the barrel being taken out, and another stave put in. This is a deception against which the officers have no means of guarding. Thus, in the excise-books, we may find that a fish curer has credit for salt sufficient for one hundred barrels of fish, when perhaps he has only cured fifty, and those imperfectly. Having this credit, the curer reckons himself safe in selling one-half of the salt for which he gave bond at an enormous profit. It sometimes happens, that the curers will not take the oath of verity to their accounts. This subjects them to a penalty, but it never probably amounts to a serious punishment, as no proof can be brought of the quantity of salt which may have been misapplied.

2. The salt being delivered free of duty has certainly had the effect of rousing competition; but so great a competition has taken place, as to occasion much mischief. Every person on the coast who possessed a trifling sum of money, bought salt with it, expecting to be enriched by a business likely to be very profitable.

able. Every one was eager to be first in the market, and this caused much haste in curing, which consequently was ill performed. There was a constant wrangling among the fishermen, in the occupation of stations, &c. and every one did as much injury to his neighbour as he could. The effect of this was to check the eagerness of the lower order of curers, who have discovered that they can reap profit with less risk, and less trouble, by retailing the salt to the inhabitants of the inland parts of the country.

The eagerness to be first in the market is the cause of the fish being driven from the lochs and bays into the open sea, and then the loch-fishing ends. The instant the news arrive of the herrings having made their appearance, hundreds of boats attack them before they have fairly entered the lochs, by which they are disturbed, and they turn again to the sea.

3. A letter from the commissioners of excise in Scotland, permitted bonded fish-curers to transfer duty-free salt to any person who had a boat and a certain number of nets. Then those whose province it was only to catch fish, became curers. From the inability of this class of people to purchase a sufficient quantity of salt, and from their having no market for green fish, myriads of herrings have been thrown on dunghills. This indulgence of the Board of Excise has opened the door for smuggling still wider; and the sale of salt has become of more importance to the people than either the catching or curing of fish.

The extent to which the smuggling of salt has been carried is hardly credible. There is not a farmer in the Highlands, who uses any other than fishery salt for butter, cheese, and other provisions. There is no other

other salt used in private families; and in the town of Dingwall, where two or three cargoes of duty-paid salt used to be sold every year, not one ounce of such salt has been sold for more than six years. The greatest exertions of the excise-officers cannot put a stop to the smuggling, and there does not appear to me any thing in the late act calculated to prevent it.

4. The bounty to busses has hitherto operated in a way directly the reverse of that in which they were intended to operate. The fisheries have been encouraged, not merely on account of the acquisition of trade, but also on account of the benefits to be derived by the northern parts of the kingdom, from opening so fine a field of industry to the inhabitants. But the buss bounty has been the means of checking the industry of the native fishermen. Innumerable proofs can be produced, of busses having been purposely steered across a large extent of country nets It can be proved, too, that boats are sent from the busses during the night, in order to cut away the buoys, and otherwise to damage the nets of the poor natives, that the buss fishers might monopolize the whole shoal. Thus a reward is given for ruining the poor peasants, who wish to betake themselves to fishing, as a more active and more profitable employment than tending a few half-starved animals on the mountains.

5. The complicated and troublesome forms in guarding the revenue, to which the fish-curers are subjected, are frequently the cause of a fair opportunity of taking and curing a large quantity of fish being lost. There is hardly any step to be taken without an officer being present. He is often out of the way, and before he can be found, the opportunity may be lost. Even

Even an honest fisherman, who has not the slightest desire to defraud the revenue, feels himself so terribly controuled, and so frequently interrupted by necessary forms and unseasonable visits from the officers, that he is sometimes under the necessity of choosing whether to break through forms, or to lose his all. I consider it quite unnecessary to dwell longer on evils which are well known to exist, while their cause is so apparent. It is of more importance to think of remedying them, and rendering the herring-fishery, both in the deep-sea and in lochs, a profitable business for the public, and for individuals. The following three things are desired:

1. Freedom from every restraint while the business of the fishery is going on.

2. Means of preventing frauds, and restoring the revenue which ought to be derived from the duties on salt, now so extensively evaded.

3. Means of rendering certain and regular the employment of the country people, who must, if not encouraged to apply to fishing, be dismissed from the Highlands.

I conceive that these desirable objects may be obtained in a manner far from being complicated. It is a well-known truth, that no branch of trade can be carried on successfully without sufficient capital. In no branch has this been made more manifest than in the fisheries. Not one person can be found who has embarked in this business, and been successful, without having money at command. Every one who has ventured a capital, and persevered, has succeeded. Now I venture to assert that, unless the fisheries are thrown exclusively into the hands of men of capital, they

they never will be prosperous. Should this important branch of national industry be entrusted to those who have money, all the advantages I have stated as desiderata, will certainly follow. In order to induce such persons to speculate in the fisheries, it is only necessary not to deliver salt free of duty, but to pay back the duty according to the quantity of fish cured and produced. Those only who have money will be able to advance the sums necessary for procuring a sufficient quantity of salt. From that will follow the exclusion of a host of ignorant competitors, whose chief object appears to be to defraud the revenue; for men of knowledge and skill; and other advantages will follow in this order:

1. A proper division of labour will take place, and we shall have the distinct professions of catchers, cleaners, salters, and packers of fish.

2. These occupations will be filled by the country people; and very probably many of those, who may at first look upon the alteration of the present system as oppressive to them, will soon see much advantage in following some of these employments, and becoming skilful in them.

3. By the duty on salt being paid in the first instance, no interruption will be experienced in the business of the fishery, and fewer officers will be necessary.

4. There will be no temptation for fraud, or at all events, much less than exists at present.

5. The fishery will become a certain and regular business, as it will be the interest of every person engaged in it, to encourage the fish to approach the

coast, and to settle in the bays and lochs. There will not be so much hurry in attacking the shoals. The competition will be in skill; none will be employed by the principals in the trade, but such persons as are skilful in each branch of the business; for it becomes their interest to have the fish well cured, and to produce them in a proper marketable condition.

Some regulations for preserving order, and conditions for repaying the duty, will be necessary, but very few will suffice. In order to render the purchase of salt easy, and in every respect convenient, public stores should be established at different stations. By this means, those who are about to embark in the fishery, need not purchase a bushel till the fish appear; nor more at one time than the appearance may justify. A liberal allowance should be made for each barrel; and there will be no occasion for any strict inquiry, whether a small portion of salt has been used by those employed in fishing, for making an egg palatable, or seasoning a pot of broth. Certain ports ought to be fixed upon where the fish should be shewn before exportation, in order that the repayment of the duty may be claimed. And to make a proper allowance for home consumption, the curer should have credit for the salt of one barrel, over every eight or ten presented; or in such proportion as may be deemed most proper. As the revenue suffers so much in the northern counties by the smuggling of salt, perhaps some other remedy, besides securing the duties in the first instance from fish curers, may be necessary. I have heard it said a thousand times by the inhabitants, that if they could get salt, they would be very glad to pay for it; but that while it is not to be got at hand,

hand, they are under the necessity of purchasing from the smugglers.

Having thus briefly stated my reasons for supposing a complete alteration in the system of management necessary, I shall only add a few words on the subject of bounties. Some of their bad effects have already been mentioned. No stimulus is necessary for adventurers in the fisheries; they only require freedom and to be properly regulated. If bounties are to be given, the objects should be different from those to which they are at present applied. Let them be given to the adventurer, according to the quantity of green fish, whether herrings, cod, or ling, which he may purchase out of country-boats; and let the crews of such boats have also some encouragement at the beginning. This would be a means of securing constant employment to the peasantry, who would, in this event, be glad to relinquish their unprofitable connection with the soil. The population would not diminish for want of permanent employment; and the proprietors of land on the coast would find it advantageous to feu ground for villages and gardens. The villages would become ample sources for the supply of sailors; and the example of industry shewn by the inhabitants, would have a powerful effect on their inland neighbours. The only objection which I can discover to the general system I have proposed, is contained in the very object I wish to attain; and it was once stated to me by a person who would himself be greatly benefited by the change. The exclusion of ignorant and trifling competitors may be considered oppressive; and, at first sight, this appears hostile to the generally admitted doctrines of commerce.

merce. No doubt, for a little time, some inconvenience might be felt by the lower orders of fish-curers. They would have to begin a new trade, or embark in some particular branch of that to which they were accustomed to. But I do not regard as oppression, any measure calculated to check the *enormous* frauds which these people have committed on the revenue. There are very few exceptions from this general accusation. Nay, so very alluring has the smuggling of salt become, that extensive frauds have been brought home to persons who were employed by the British Society.

But in the event of public stores of salt being established, all appearance of oppression will vanish from the system. For every fish-curer may buy salt in quantities to suit his views, and if he does not use the the whole he may return it to the store. But every adventurer ought to be able to embark on a proper scale.

It will yet be necessary, if any regard is paid to the population of the Highlands, to have an act of parliament for regulating the loch-fishings; and probably one to regulate the distribution of salt. It appears to me that there is yet an officer wanted. A person of respectability, some country gentleman who is a justice of the peace, and who has some acquaintance with the business of the fishery, ought to be appointed, with the title of general inspector. His duty should be, to make regular visits to every fishing station within a reasonable space; to judge in all complaints made by the local inspectors, by the superintendent, and by the officers of excise, and to report

port all cases which come before him to the commissioners. By thus promptly enforcing the laws, the business of the fishery would be little interrupted; and much expence and trouble to the adventurers might be saved. The superintendent would have more time to cruise about, and see what was going on, and many other advantages would arise. The expence of this office need not be great. Perhaps some one might be found, whose patriotism would not permit him to expect much more than his travelling expences, and an allowance for a clerk. The inspectors might probably act as clerks. One circuit in spring, and another in autumn, would be quite sufficient. It is to be regretted, that in the late fishery act, no regard was paid to the employment of the natives. But when Sir John Sinclair's exertions are directed to this object, I have no doubt of his seeing the propriety of protecting the loch-fishing, as well as that of the deep sea; and of his attending to what Mr M'Donald says respecting the capture of cod and ling. I call upon him, in the name of every Highland proprietor, to endeavour to save to us the only means we have of employing our superfluous population. Perhaps he is the only one among the commisssioners who is acquainted in any degree with the actual business of fishing, and on that account I have great confidence in his influence with them.

SECT.

SECT. 3.—HEALTHINESS OF THE COUNTRY, MODE OF LIVING, &c.

ALTHOUGH our climate might not suit constitutions unaccustomed to sudden transitions from heat to cold, the inhabitants reckon it extremely salubrious. There are no extraordinary obstacles to population in the climate beyond that of any other country. There are no peculiar diseases, and few of any description.

The higher ranks live much after the manner of people in the same stations elsewhere, but are characterised by being moderate, both in eating and drinking, although at a period not very remote, when wine was cheaper than it is now, a man was reckoned inhospitable, who did not make his guests drink even against their wills. There are now very few remains of the former rude hospitality. The lower classes are very moderate, and are contented with very coarse fare. They are hardy and healthy, and the rising generation may become, in every respect, a valuable people, provided they be well managed. Their manners have been rapidly changing. The first indications of the introduction of luxury appeared not many years ago, in the young men relinquishing the philabeg and bonnet, which are now almost rarities. The young women, too, are becoming more attached to dress; and all seem to be on the point of discovering, that cleanliness is more comfortable than filth. I am sorry, however, to say, that cleanliness seems to make slower progress than any other improvement. Could we find a Hamilton to write a tale in Gaelic, for the ingle-nooks of our cottagers, we might expect a speedy reform.

reform. The Highlanders are fond of tales, and there does not seem to be a better method of pointing out to them the advantages of activity and cleanliness, than dispersing among them a few stories drawn up with ability. This might have greater effect, from the people seeming now to be convinced of the importance of educating their children. Were little tales put into the hands of the children at school, they would read them to their parents, and while the old people were gradually reforming, the habits of their families would become fixed.

Having no connection with the soil, the characters of the young Highlanders of the present day are very different from those of their predecessors. The eagerness of the latter to convert the produce of their land into spirit, has been the means of destroying all their good qualities. The former, having no temptation to be otherwise, are, in general, active and enterprising, and do not seem to be oppressed by that constitutional laziness which would have overpowered them, had not the spirit of improvement come forth to save them. There are exceptions no doubt; but these are found only in such cases where the children are dependent on their parents, or where the young men have been brought up at the side of a still, in expectation of succeeding to the possession of their fathers. But there are many who make frequent visits to the southern counties, and return with some ideas of independence; who begin to feel their own powers, and to value them. And shall we attempt to degrade them? Shall we make efforts to confine their exertions to small farms and crofts, out of which their utmost industry could gain but wretched means of support? No! rather let us encourage their spirit, by allowing it to be free, and

and leave them to choose employment for themselves. If they desire to become farmers, let them learn the practice of agriculture, as other farmers have done, by holding the plough. If they wish to become artisans, a wide field is open to them.

There is no danger of the labouring class ever becoming too small. Of this, however, many fears have been expressed; but such fears are sordid. If the price of labour rises, it is otherwise repaid; and although I once was led away by the general terror for an advance on the value of labour, I am now perfectly convinced, that the rise is the strongest possible proof of improvement in the character of the people, as well as in that of the country. I believe that emigration will yet, to a certain extent, go on; but that may be diminished by giving encouragement to the loch and cod-fishings. The period for emigration being stopt is fast approaching; but it will not depend on the lucubrations of those who have written against the opinions of Lord Selkirk. The change in the management of estates, and in the character of the people, has been going on, and will finish in spite of them. When the Highlands have wholly undergone the change which has been predicted, Lord Selkirk's book will be read with the applause due to his talents and his foresight, and those who have ventured to oppose his doctrines, may yet live to wonder at what they have written. The humanity shown in the desire to keep the highlanders at home, never was stronger in the breast of any man, than in that of Lord Selkirk; but he saw that the rapid progress of knowledge, and advance of improvement, hurried on by the necessities of Highland proprietors, had brought the population of the country to an alternative which had not been

foreseen. His humanity prompted him to interpose; and, after pointing out the necessity which existed, of removing the superfluous population, he suggested the propriety of government interfering to preserve to the nation, in another part of our dominions, a hardy and loyal race of men.

Obstacles to Improvements.

Various obstacles to the improvement of the Highlands have been conjured up by those who are disposed to find fault with the conduct of proprietors. The only ones of any magnitude, which I can discover, are the want of capital, and entails. But I do not mean the want of that capital, which is to be found among persons who have devoted their lives to agriculture. By prudent means, we may always bring agricultural capital from the south. The want of ready money among the majority of the proprietors is the obstacle to which I allude. This want retards improvements of every kind. When a farmer having a moderate capital, comes to this country to settle, he must bestow a great part of his money upon buildings. The proprietors are, in general, unable (some few may be able, but unwilling,) to furnish the means of erecting proper farm-steadings; and are forced to make some stipulations in the leases which they grant, promising a certain sum at the end of the lease, or a certain annual deduction from the rent, in order to refund the outlays of the tenant. When entailed proprietors have a command of money, and every inclination to prepare for good tenants, by building suitable dwelling-houses and offices, they feel reluctant in laying it out on a property of which they have only a life-rent, and that often very much burdened. It is in this view that

that the want of capital is chiefly felt. It is of the greatest importance that the capital of a tenant should be entirely devoted to the soil and his stock. The sooner it is bestowed upon these, the sooner it will return, by the land being quickly improved. We certainly cannot find capital at home, and we must look for it from another part of the kingdom; and we ought to encourage its approach by every means in our power, such as long leases, few restrictions, and the free exercise of hospitality and condescension.

There is one very great misfortune attending many Highland estates that are entailed, that of their being detached in many small portions. The expence of obtaining an act of the legislature to enable an heir of entail to sell parts of his estate, in order to make the principal part compact, by adding new purchases, is an evil which ought to be remedied by a general act. The obstacles which have been pointed out in the report of Inverness-shire, such as run-rig, township, servitudes, shortness of leases, overstocking, digging pits, rack-rents, stubborness of the common people; all arise out of that system of possession which the author and many others strenuously defend. When that system shall be wholly altered, they will vanish and be forgotten. Indeed, at present, they must be considered as trifling, when the means of removing them are so completely in our power. It would be needless to mention them at all, were it not that their existence proves, in a very satisfactory manner, the absurdity of maintaining the old system of occupation. When men of sense are put in possession of our land, we shall hear no more of such obstacles. If Highlanders have short leases, this circumstance ought not to be considered as an obstacle; for

for the sooner the leases are at an end, the sooner will improvements be made. Long leases, I can positively assert, will not tempt Highlanders to embark in improvements. I must not omit mentioning, that the great extent to which illegal distillation is carried, is a very great obstacle to improvement. The farmers, who are accustomed to receive great prices from the smugglers, will not agree with me in that opinion, nor the excise officers, nor probably many proprietors. The injury which it does to the character of the people is evident. It is common now for beggars, in some parts of the country, to ask alms in barley, which they sell to the distillers. But I cannot enter more at large on this subject, lest this report should swell to an unreasonable size. It is already sufficiently bulky. I cannot refrain, however, from taking notice of another obstacle to improvement. Until the English language shall be universally spoken in the Highlands, we cannot expect any rapid improvement in the character or habits of the people. I rejoice, however, that those who, from very mistaken notions on the subject, are desirous to support the Gaelic language, have announced their anxiety to have professors to teach it in some of the universities and academies. There cannot be a stronger proof of the decline of the language; and every true lover of his country will hail the appointment of a professor, as the signal of the language being either dead or dying. As I reduce the obstacles to improvement to a very small number, so I must treat the

Enemies

for which the board has inquired. We have no dread of the red-worm or slug; nor, are we much annoyed by

by rats, mice, sparrows, or vermin of any kind; except those authors who, ignorant of the real state of the country, abuse us before the world, for taking advantage of the only real

Means of Improvement

which exists, namely, placing the land in the hands of men, who have skill and capital to improve it.

I have thus briefly and freely offered to the board my sentiments on these subjects, and I trust, while it continues to employ strangers to survey the Highland counties, it will not be led astray in its views, by the insidious methods too often pursued, for obtaining that bubble popularity, which are calculated to mislead public opinion, on most important subjects.

Agricultural Societies.

The advantages which are derived from societies instituted for the purpose of discussing subjects connected with agriculture, are many and obvious. I have the honour of being a member of the Ross-shire Farming Society, and several other proprietors are also members. But I look upon the advantages arising from the mutual communication of knowledge, as far inferior to one, which does not seem to be duly appreciated. I allude to the social intercourse between landlords and tenants, which obtains in this society, and many others which have been established in different parts of Scotland. It must be truly gratifying to every landlord, to think that his tenants look upon him as their friend; and I have no doubt, that the condescension of landlords, in associating freely with the class of farmers, is considered by the latter as a pledge of friendship and protection; and that it acts

as

as a strong stimulus to exertion. Let those who talk of Highland pride, look at the emulation, which subsists between us and our tenants. Let them observe the landlord and his tenants striving who shall have the best crop, and talking over a social bowl, of their exploits in farming.

The Ross-shire Farming Society possesses a small circulating library, to which additions are annually made.

Some Particulars respecting the Old Shire of Cromarty, from a Communication made by DAVID URQUHART, *Esquire, of Brælangwell.*

THE old shire of Cromarty, or, as it is called by the inhabitants, the sheriffdom, consists of the parish of Cromarty, and three-fourths of the parishes of Kirkmichael and Cullicudden, united under the name of Resolis. But for political purposes, all the property belonging to the Earl of Cromarty, which was locally situated in Ross-shire, was annexed to the county of Cromarty.

There was no Gaelic spoken in Cromarty till about thirty years ago, when a hemp manufactory was established, which brought so many people from the Highlands, as to render a place of worship, in which the service would be performed in their own language, necessary. A chapel was built accordingly, and a clergyman settled, with a stipend of L. 50 per annum, paid out of the bishop rents; it has lately been augmented to L. 100 Sterling.

From there being no Gaelic spoken in the parishes of Cromarty, Rosemarkie, and Avoch, which stretch along

along the coast of the Murray Frith towards Inverness; from a number of customs peculiar to the inhabitants, and the singularity of their names, there is every reason to believe, that this district was settled by the Saxons, and that the present people are their direct descendants.

Dalrymple states in his Annals, that when Edward the First appointed sheriffs in Scotland, the only offices which were then hereditary, were the sheriffdoms held by the Urquharts of Cromarty, and the M'Cullochs of Wigton.

In the old shire, there may be about 4500 acres of arable land, about 4000 of waste land, and about 2000 under natural wood, and planted. There is a claim of commonty on the Millbuy, or Ardmenach. Cromarty and Nairnshires are alternately represented in Parliament.

There are four properties held of the Crown, and two small estates held of subjects. There are only eight farms, the rent of which exceeds L. 100 per annum, with the old practice of in and out field. A few tenants have leases, and they pay from 10s. to 30s. per acre. The land near Cromarty fetches L. 2, 10s. per acre. The large farms only are inclosed. The proprietors in general are active in improving waste lands, inclosing their farms, and making considerable plantations.

With a view to promote industry, and give employment to the poor, a proprietor*, some years ago, established

* David Urquhart, Esq., a gentleman, whose patriotic spirit and sound judgment, have enabled him to set a most important example.

blished a mill for carding wool, and jennies for spinning it, also a wauk-mill, two flax-mills, and a flour-mill. After encountering all the difficulties by which new plans are always attended, he has now the satisfaction of seeing them answer the purposes for which he intended them. Mr Urquhart has planted an orchard of thirteen acres, which is the only one of consequence in the north.

The exertions of the late George Ross, Esq. of Cromarty, induced Government to bestow L. 7000 for a pier at Cromarty, to which Mr Ross himself liberally contributed. Since the pier was built, the trade of the place has increased much. Mr Ross erected a large brewery, and houses for a hemp manufactory, which is now in a flourishing state. From the 5th January 1807 to 5th January 1808, there were imported 185 tons of hemp; and about 10,000 pieces of bagging were sent to London, which may be valued at L. 25,000. During the same period were exported 1550 casks and tubs containing 112 tons of pickled pork and hams, and 60 tons of dried cod-fish. Mr George Middleton came to Cromarty about twelve years ago, to cure cod-fish and pork; and his industry and knowledge has been of great use in promoting this branch of our exportation to the London market.

About three years ago a rope-work was begun. A vessel is now on the stocks of 123 tons, being the first attempt which has been made in ship-building; than which nothing could contribute more to the prosperity of the country. The situation of Cromarty is particularly adapted to the Greenland trade.

Nothing can shew the alteration in the mode of living, more than the increase in the consumption of wheat-flour

wheat-flour. Twenty years ago three bolls were sufficient. At this time, about 800 bolls are consumed annually. To go farther back, we find that before the union, the poverty of both town and country were such, that the magistrates petitioned to be relieved from the heavy tax of sending a representative to Parliament, being unable to support one. And Sir John Urquhart of Cromarty engaged to pay an allowance to Mr Dallas of St. Martins, (author of the Styles), to induce him to represent the county, and being unable to implement his engagements, Sir John made over to him, as stated in the disposition, the lands of St. Martins, and all his other property in the united parishes of Kirkmichael and Cullicudden, with the patronage. These parishes are now known by the appellation Resolis, derived from the name of a farm on which the church stands.

Common called Millbuy, from Sir JOHN SINCLAIR'S *Survey of the Northern Counties.*

"IT is asserted by the best judges, that the soils of the whole of this immense common are as good, and as capable of every improvement, as those of the rest of the Peninsula, and that the plough may, in fact, reach any part of it; and wheresoever it might not succeed, that plantations of firs, oaks, ash, elm, birch, beech, &c. &c. will most certainly thrive, in like manner as they are already seen to do upon the different properties, to the great ornament of the country, profit to the owners, and comfort and accommodation to the inhabitants in general; for the very wood of this common, together with the other extensive plantations of the

the district, would become a certain supply of fuel at a most easy rate, and of which we stand so much in need here: we have no peats; there is none to be found in the whole bounds hardly, unless a soft, spongy yellow moss, dug to a trifling extent near Ferrintosh, may be considered as of that description * †.

"Several attempts have been made to have a division made of this commonty, and particularly of the western part of it, very lately. Great and various difficulties presented themselves, but all had been so far overcome by the proprietors in the western part, as that they unanimously agreed, and fixed upon an arbitrator, who thought he might undertake the task, with the aid of counsel, surveyor, &c. But the undertaking, upon further reflection, appearing too arduous, was declined by him, since which the matter has not been again agitated.

"The obstacles to the accomplishment of this important object I shall fairly state, and are the following, viz.

"1*st*, Though the Court of Session (under the act 1695 it is supposed) can force a division, besides the uncertainty of the issue, the risk, the trouble, and delay, it requires a large advance of money, which hardly a proprietor will be found willing, and but few able to make.

 "2*dly*,

* "The remission of the duty upon coal will eternize Mr Dundas's memory in this district; let but the duty upon salt be modified, and reduced within the reach of the poor also, and, for the general good and welfare, the common of Millbuè be divided, then shall we indeed have cause to bless the Board of Agriculture and him, and transmit their names with grateful praise to our latest posterity."

† The practice of paring the turf from the surface, which still obtains, has rendered this moor incapable of much improvement. Trees, however, thrive tolerably well in some parts of it.—G. M.

"*2dly*, The competitions and mutual jealousies of conterminous heritors, the encroachments already made, and facility of making more in the local situations of some.

"*3dly*, Supposing these last surmounted, and as in the case of the western division, that a general concurrence of all was obtained to refer the whole to arbitration, hardly one can be found equal to the undertaking, who can devote time sufficient to so tedious and complicated a business; besides the invidious reflections which arbitrators often incur on such occasions.

"*4thly*, But allowing even that this last was removed, we have still a stumbling-block in the Royal Borough of Fortrose, who claim a right of commonage, and it is said they might not consent; neither, as alleged, could they be forced: whilst some imagine that theirs is only a *servitude* upon the common, and not a right of property; and others, that it was only a bequest of an Earl of Cromarty, or a Countes of Seaforth, to the poor of Fortrose, and upon which pretensions of common have been founded. On the other hand, the borough insist that they have their right by charter from different kings of Scotland, the first from Alexander King of Scots, and his successors, and amply confirmed by James the VI. in 1592 and 1612, and, withal, possession for time immemorial.

"Whatever arguments may have been adduced at any time in favour of the continuance or preservation of commons, none of these will apply in the present instance of the *Milbuè*, for it will manifestly be rendering essential service to the tenantry and lower class of cottagers of this district, to deprive them of the privilege of mispending and misapplying so much of their time and labour, as are annually bestowed, in collecting

their

their miserable turf for firing, which is the chief, and in fact the only benefit (if it can be so deemed) that they reap from this common; for, if the face of it is examined, no person will pretend to advance, that those who depend upon it for the pasture of a few hungry sheep and young cattle, can possibly derive advantage from so wretched and so cruel a system; nay, it is impossible the animals can exist upon such sustenance, and recourse must be had, of consequence, to depredation and encroachment upon property from which they are debarred, so that their very morals are affected by this same evil usage and privilege of common. In short, it requires no argument to convince the understanding of those acquainted with facts, of the expediency, and evident public, as well as private advantages, to be derived from a division of this immense tract. The proprietors, therefore, and all interested in the attainment of so great and desirable an object, look up with confidence and hope to the weight and influence of the patriotic Honourable Board of Agriculture for their aid and support, before whom all obstacles and difficulties must vanish and disappear.

"Notwithstanding it is not at present known that any one is avowedly averse to the measure, (but the contrary indeed) yet, in case any opponents should start up, besides the borough of Fortrose, it is humbly suggested in such case, that the Honourable Board have it in their power, by one or other, or both of two modes, to make all unanimous in this great business; and that is, either by obliging the parties, and all others in similar circumstances, by an Act of Parliament, to nominate, in a given time, an arbitrator or arbitrators, armed with full powers; or that the Board should order an action

or

or suit to be instituted before the Court of Session, in name of one or more proprietors, by a common agent. The expence of the whole would perhaps amount to 1000l. or 1500l. Sterling; and there is about L.19808 8s. 9d. Scotch of valued rent in the Black Isle, upon which to rate it, fully sufficient to pay the charges *.

"In respect to the borough of Fortrose, or any other unforeseen obstructions, who more able than the Board to provide against such opposition? And should the Court of Session be preferably resorted to, and that they are enabled by the present existing laws to bring the Borough to an acquiescence, and assign them their proportion according to such equitable mode of computation as may be fixed upon; or even should the Magistrates join in a submission, it is imagined they run no hazard of challenge from their successors, especially when it has been the constant practice of the corporation to grant feus, which they could give of these lands also, when allotted, and thus greatly benefit their constituents, far beyond any advantage they at present imagine they enjoy †."

APPENDIX.

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* "If the common contains 25,600 acres, each hundred pounds of valuation will have 129 acres; suppose the expence to be L.1000 Sterling, the purchase would be but a trifle more than 9d. per acre."

† There can be no doubt that an object of so much importance as the division of a common, is an object worthy of the attention of the Board. Nay, it appears to be its duty to forward, by every means in its power, a measure so fraught with benefit. The difficulties in the way of dividing and improving a common in Scotland are not so great as those to be met with in similar cases in England. Much, however, depends on the neighbouring proprietors themselves.

APPENDIX.

Extracts from the Survey of the Northern Counties, by SIR JOHN SINCLAIR, *Bart. made at the desire of the Board of Agriculture.*

The Black Isle.

" *Origin of the Name.*—The original Gaelic appellation of this peninsula was *Edderdaile*, expressive of its situation between two arms of the sea. It is at present known by the natives under the name of *Ardmeanach*, which signifies in Gaelic *a height in the middle*, (its situation between two seas being implied or understood,) or by the appellation of *Elandu*, or the *Black Isle*, which may probably have arisen from the gloomy appearance it exhibits at the first glance, owing to the immense extent of the dark and heathy common of *Milbué*, which runs almost from one extremity of the peninsula to the other.* However unpleasant the epithet *black* may be, when applied to a valuable district, yet it is hardly worth while now to think of changing it. In the present state of the country, it conveys so strong an insinuation of reproach on the public spirit of the existing territorial possessors, that it may operate as a stimulus to improvement. When its colour is converted to the verdant green, the appellation of *The Black Isle* will then become an honourable

* " Others imagine that the name of *Black* Isle was given to this peninsula, because, in consequence of its being almost surrounded with water, the snow sooner melted there than anywhere in the neighbourhood; consequently, in the spring it would have a dusky or black appearance, particularly when compared to the neighbouring mountains covered with snow."

able testimony to those who have been, or may be, instrumental in effecting so important an alteration.

"*Salt-water Mill.*—At Munlochy there is a salt-water mill which works by means of a mound and sluice. The force of the tide opens the folding gates of the great sluice when coming in, and the weight of the body of water shuts them on its return, when a small column is let off upon the outer wheel, which is of larger dimensions than that of the common mills. It grinds sixteen hours of the twenty-four, that is, eight hours each tide.

"There may be other situations round the coasts, upon which capital mills of machinery might be constructed in a similar manner, and perhaps with improvements: and, indeed, this hint may be worthy the consideration of those who live upon the coast of any part of the kingdom, where water machinery may be much wanted, and yet cannot be constructed, in consequence of their having no command of fresh water in the neighbourhood."

"*Effects of Commerce and Manufactures on the Agriculture of the District.*—Inverness had its original establishment, and has been the capital of the North for ages; its situation for trade is extremely favourable, and within these twenty or twenty-five years, its progress in commerce and manufacture has been wonderful. At present, Inverness is the emporium of the Northern Highlands; by its fortuitous priority of settlement and rise, it has gained an advantage that it bids fair to hold, and very deservedly, no doubt; but should trade and commerce go on, improving and increasing in the manner they have indicated of late years, I do not say that Inverness will have its equal, but

but I may venture to prognosticate, that in the course and progress of time and events, it will have a serious rival in *Cromarty*. *Cromarty* has one of the most noble, capacious, and safe harbours in the kingdom. The whole district of the Black Isle is embraced by two fine arms of the sea, as high up as Dingwall and Bewly, leaving the isthmus there, as its mouth or land communication, with a wide extent of surrounding country, whilst the conveyance by water renders this still more convenient and complete in all directions. Ships of almost any tonnage can navigate two thirds of the extent of both branches, and vessels of 100 tons, or above, may safely deliver and receive goods at both Dingwall and Bewly. *Cromarty*, situated at the other extremity, and from whence these two branches proceed, is placed at the top of the Moray Frith, its short and easy communication with the German or Northern Ocean, so that it is most happily designed by nature for every great national purpose of marine, as well as of trade and commerce; it is the chief, most commodious, and safe resort for our navy and shipping from the Northern and Eastern seas, and consequently of the highest importance in that view alone. But over and above this most powerful and mighty consideration, from its central station, it is obviously the best adapted and best calculated to become also the grand depôt, the great granary and storehouse of trade and merchandize, in the northern end of the Island of Great Britain; and when the day shall arrive (and come it will) that Government will assuredly see the utility and vast importance of a naval establishment at this port, *Cromarty*, with no less certainty, will be seen to rise

rapidly, and become the general mart of the North, inviting and diffusing around it the benign influences of trade and commerce in every direction, as well foreign as domestic*.

" But notwithstanding all these conveniencies and alluring advantages, commerce and manufactures have as yet made but little progress in this particular quarter; however, a dawn does appear, and if cherished and encouraged, we may, in no very remote period, arrive at that meridian splendour which I here fortel, and that, I think, without any violence to probability. We are happy to observe a general rising spirit of industry and exertion, communicating and indicating itself proportionally in every town and village; and in the Northern Highlands, we are not now without several instances of successful adventurers, who, by a commendable perseverance, have established themselves in comfortable gainful employments, in different branches in their own country, to as much advantage, perhaps, as if they had emigrated to America or elsewhere. But for the ridiculous pride of some of our *very* gentle families of high descent, yet, alas! but *very* slender means, many of them might see their children happily established around them at home, without driving them abroad in quest of distant corners, wherein, as it were hiddenly, to apply themselves to various employments, to which, forsooth, they could not stoop in the face of their *mamas* and *papas*,

* The event has not justified this prediction; for Inverness has been rapidly advancing, while Cromarty has remained stationary. Many things necessary for rendering Cromarty a naval depôt have been found wanting.—G. M.

papas, and their numerous high-bred starving connections. But it is to be hoped, that these vain prejudices are giving way to common sense, and are wearing off; and that soon it will be no detraction from, or reflection upon young men of industry and ability, to follow such honest pursuits in their own country, as their circumstances and situation in life would warrant and justify their adopting abroad in foreign climates * †.

" There cannot be a doubt but that the kindly influences of trade and manufactures direct their effects as immediately to agriculture, as to any other object or art capable of improvement, for they must of course go to quicken and increase the demand for the husbandman's produce and stock. This is, I believe, a self-evident truth, wherever commerce and manufactures have found footing. For what though, in imitation of the Cromarty manufacturers, and the bold successful

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" * How different the wise conduct of Mr Millar of Kincurdy, who, though an independent landed proprietor, of very ancient standing in this country, after having bestowed upon his son a good education, recommended to him (in aid of such comfortable, though small patrimony as he might be able to bequeath him,) the acquirement of some practical art or employment, as a ready channel of improving his fortune. The son, with an equal degree of good sense, assenting, has made choice of the woollen manufacture, as that field which affords the fairest prospect of success in this country. The good wishes of every lover of his country must go along with him in this laudable pursuit."

† I consider these remarks as perfectly erroneous. It is quite ridiculous to suppose, that all our young men could find suitable employment at home. I do not believe that Highland pride was ever carried to so great a length as is stated above.—G. M.

cessful fishermen of Avoch, the farm-servants are led to bedeck themselves in a more gay attire, and expend all their wages in the shops, to purchase costly coats, vests, gowns, and petticoats, and that, occasionally, by these means, farm-servants may be rendered more scarce, and wages higher, instead of being moderate, suited to our confined circumstances; and moreover that the money, (however trifling its amount) is thus diverted from its proper channel, the home-spun warm fabrics of the country, and so lost to it: yet all these are of little or no consideration, contrasted with the example, the spirit of industry, and diligence excited, (and that too in a great measure by means of these artificial wants,) and are at the same time more than amply compensated by the increase of the rent of lands in the neighbourhood of these establishments, and the advanced price of the produce of the farms, occasioned by their constantly increasing consumption.

"The resort of shipping to Cromarty, on account of its safe anchorage, and also its very convenient pier, the extensive hempen manufacture of sacking and biscuit-bagging, established about twenty years ago, its capital well-conducted brewery, erected at the same period*, and a manufacture of nails; these, together with

* "The hempen manufactory the late Mr Ross of Cromarty established, in which he had the aid of his patriotic friends in the country, from whom the present owners purchased the stock and utensils a few years ago, and it is now carried on by these proprietors, who are resident in London, to which market the whole produce is consigned.

"The whole buildings of both are the property of, and rented from, Alexander Ross, Esq. of Cromarty."

with some dealers in provisions and victualling stores, and the retail trades carried on by the different shopkeepers, are the branches which, as yet, distinguish this commodious, well adapted, and finely situated town, and occasion a circulation of money, that has certainly been so far serviceable to agriculture in its neighbourhood, as that none of the lands rent under 40s. per acre; and we often see an acre of potatoes there bring L.10 Sterling. Besides what the manufacture at this place distributes, there is a great quantity of coarse lint sent from Aberdeen and Inverness, to be given out by agents among the women in this district and the surrounding counties, for spinning, by which they earn from 3d. to 4d. per day.

" At Avoch, we find them manufacturing coarse linen from lint raised at home; herring and salmon-nets, and fishing-tackle, partly from hemp raised there also; and upon the bold and adventurous fishermen of Avoch do the Invernesians chiefly depend for their supply of fine fish. These bring in a good deal of money to the village, which is growing in size and population, and, by consequence, its adjoining fields improving much. All over the district, *whisky* distilling is pretty generally carried on, especially about Red-Castle and Kilcoy, and in this line *Ferrintosh* has been long celebrated. To our farmers, this *staple* secures a steady demand for barley, which is much more frequently above 17s. per boll than under that price.

" But, doubtless, the immoderate use of ardent spirits is very pernicious to the constitutions, as well as morals of the common people, who are thereby greatly enervated

enervated and depraved, even at an early period of life. It cannot be denied that this is a melancholy existing fact, among the lower classes of the North Highlands in general. In our little towns and villages here, they are most grievously addicted to this vice; it is not from any difference in price to the consumers here upon the spot that this arises, for there is little variation in the cost all over the country; it is from evil habit that it continues, and from which it has not hitherto been possible to dissuade or allure them. It was for this express purpose that the late Mr Ross of Cromarty established his brewery there, in order that the inhabitants and manufacturers might be supplied with *beer*, as a more wholesome beverage; yet although the business is advantageously prosecuted, in supplying the families of the superior classes in the different counties near us, the brewery has not near the employment it is capable of executing. We still, however, look forward with a hope, that ale or beer may come into more general use, to the abatement and discouragement of the baneful practice of dram drinking*.

"If the manufacture of whisky or corn-spirits, (which perhaps may be useful and necessary in a moderate degree, in our climate,) could be regulated so as to prevent its abuse, the distillers are certainly advantageous

* An enterprizing brewer, of the name of Black, at Aberdeen, has lately forced a market for his porter at Inverness, and different parts of the country. He established a tap-room, to the great annoyance of the Inverness brewers. Black, however, compelled them to establish tap-rooms in self-defence, and malt-liquor is now in great demand.—G. M.

tageous to the farmer, as affording a steady market for his barley.

" The miserable, the trifling, and unskilful mode of conducting this business, owing to the total ignorance of the still-owners in chemical processes, makes it a matter of astonishment that they should find their account in prosecuting so very abstruse a trade, liable to so many disappointments, and in this particular district too, labouring under so material an inconvenience, in the want of a most essential ingredient, that of *firing*, having hardly any peat in the Black Isle. Many of these deluded people might be much more beneficially employed for themselves and society; and it is generally remarked, that the farm which is associated with the distillery is sure to be neglected. A distillery of moderate extent and establishment, under a regular professional manager, having a serious interest in the concern, would execute more work (and with certainty of great profit and advantage,) than fifty or a hundred of these inferior stills, occupied as they are here. I have not a doubt but that, one of these days, some discerning skilful man of capital will see a fine opening here, in this line of business, and wrest it out of the hands of the present drivelling set, to the great mutual advantage of both, and benefit of society*.

" We have other well adapted situations besides Cromarty, suited for the establishment of manufactures, on

* Some years ago, a distillery upon a large scale was attempted, but from some defect, either in the original concoction, or subsequent management, or both, and the Ferrintosh privilege ceasing withal, the concern was broke up and abandoned; which, however, argues not at all against a well-digested plan.

on the coasts of this district, viz. Fortrose, Avoch, Munlochy, Red-Castle, Bewly, Connan-Side, &c. in all which, and indeed over the whole district, linen, woollen, and cotton manufactures, and various other branches, might be most advantageously carried on."

"*Spirit of Improvement.*—As already observed, whilst in general the people seem to consider it as sinful and sacrilegious to deviate from the practices of their ancestors, little improvement can be expected; however, where a sincere good proselyte can be made, to him proffers of encouragement are never wanting. It has also been already mentioned, that the spirit of improvement in this country seems to be spreading, and a tolerable good progress is indicated.

"In respect to the best mode of exciting such a spirit among the lower class, it is difficult to say; but it is generally agreed, that long leases, among other inducements, seem to be the first foundation whereupon to build our expectations. Long leases to the generality of our tenants have little effect, but that with those of a higher description, it is different, and that with them a long lease will always be the leading step and stipulation. In addition to long leases, it is suggested, that a small proportionate aid in money, to the deserving, at a low interest, on certain easy conditions, particularly that of obliging them to have good farm-utensils, with cattle of sufficient strength to work them, might have a good effect. These, with the intercourse that may take place, by means of the Farming Society, may raise a spirit of emulation among the common tenants, especially if aided by the impartial distribution of well-calculated premiums; and it is well known, that an example from a neighbour of their

their own sphere will work wonders, when neither that, nor the best precepts from a higher rank, can avail *.

" The schools appointed by the Society for Propagating Christian Knowledge, in aid of the parochial establishments, are of great benefit in dispelling ignorance, and giving to the minds of the lower orders of people a degree of cultivation and improvement, that may happily conduce to the disposing a greater number of them, the more readily, to part with their prejudices, and may, in the end, prove very important to agriculture; of these we have four within this district †."

" *Arable*

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* " A common illiterate tenant, on the estate of Allangrange, *Alexander Davidson*, is very deserving of notice here. He has twenty acres of land, of a most barren quality, to work upon; but with a due sense and spirit, quitting the common tract, he has many hundred yards of drains, close and hollow; he fallows, raises turnips in drills, and sows grass-seeds, and has almost finished and levelled, by trenching and ploughing, all the broken interspersed parts among his fields, to amount of some acres; and Mr Munro of Munlochy assures me, that several of the tenants near him, and even the mailers, have their potatoes in drills now, with some patches of sown grasses, and all this within these four or five years, to which no doubt, the example of *Alexander Davidson* has greatly conduced."

† The schoolmasters appointed by the Society are generally very weak miserable creatures. Their mode of teaching is such, that the scholars derive little, if any benefit from their attendance. They read to be sure, but it is a question if they understand. Their reading is almost entirely confined to the Bible, which is certainly the best, but not the only book that is necessary. In the parish schools, the selection of reading lessons is often very absurd, and by no means calculated to make the scholars understand the language.—G. M.

" *Arable Highland Farms.*—Though the interior parts of Ross ought in general to be appropriated to the feeding either of sheep or cattle, yet the sloping side of the hills, where the soil is tolerably fertile, might be employed in producing grain for the use of the inhabitants, whilst the flat ground had better be dedicated to meadow; and as the facility, and the profit of ploughing the sides of hills, depend much upon the manner in which the ground is laid out, it may not be improper to make a few observations on it in this place.

" There are four modes of laying out ridges, on the sides of hills, on sloping banks, or *braes*, as they are called in the northern parts of the kingdom, which it may be proper to advert to.

" 1. *When they are planned on the same line or level, thus:*

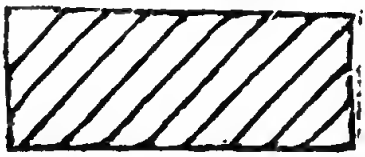
" This is done partly with a view of preventing the soil and manure from being washed down, and partly from the idea, that it is easier for the cattle to work it. But it keeps up the water in the furrows, and is an aukward mode of ploughing.

" 2. *When the ridges are even up and down.*

" This is a very improper mode. The soil and manure are both likely to be washed down, and when the

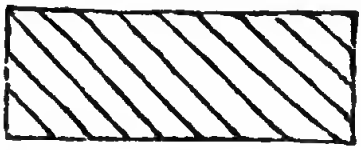
plough is going up, the earth makes such a resistance, that it is extremely difficult for the cattle to cleave the ground without the utmost exertions.

" 3. *From the top of the bank sloping to the left.*



" This mode also does not answer, for when the plough is going up, the ploughman is obliged to force the earth against the bank, which makes but very indifferent work; and it cannot be done without injury to the cattle.

" 4. *From the top of the bank sloping to the right.*



" This is the proper plan to be adopted, for when the ridges are laid in this manner, the ground always falls from the plough, as it goes upwards, without any great exertions on the part either of the ploughman or cattle. The ground is not forced against the bank until the plough is coming down, and then it is done with so much more ease, that one third less strength of cattle will plough an equal quantity of land. *"

* " The plough commonly used in Kent, called the Turnwrest Plough, with a shifting mould-board, is particularly adapted to ploughing across the slope of hills, as it enables the farmer to turn the furrow always downwards. It is, however, attended with this disadvantage, that it brings lower and lower the staple of the soil."

THE END.

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